

WM-GX414

SERVICE MANUAL

Canadian Model
AEP Model
E Model



Dolby noise reduction manufactured under license from
Dolby Laboratories Licensing Corporation.
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Dolby Laboratories Licensing Corporation.

Model Name Using Similar Mechanism	WM-FX433/FX435
Tape Transport Mechanism Type	MF-WMGX414-114

SPECIFICATIONS

Radio FM: 87.5 – 108 MHz (0.1 MHz step)
(Canadian model)
87.5 – 108 MHz (0.05 MHz step)
(Except Canadian model)
AM: 530 – 1,710 kHz (10 kHz step)
(Canadian model)
531 – 1,602 kHz (9 kHz step)
(Except Canadian model)

Power requirements
• 3 V DC batteries R6 (AA) x 2
• External DC 3 V power sources

Battery life (approximate hours)

Sony Alkaline LR6 (SG)	Sony R6P (SR)
18.0 hrs. (Playback)	4.5 hrs. (Playback)
30.0 hrs. (Radio)	11.0 hrs. (Radio)
8.0 hrs. (Mic recording)	2.5 hrs. (Mic recording)
8.0 hrs. (Radio recording)	2.5 hrs. (Radio recording)

Dimensions

116.5 x 88.3 x 36.9 mm (4 5/8 x 3 1/2 x 1 1/2 in.) (W/h/d)
incl. projecting parts

Mass Approx. 170 g (6 oz)
Approx. 270 g (9.6 oz) incl. batteries, a cassette,
and headphones

Supplied accessories

- Stereo headphones (1)
- Stereo microphone (1)
- Microphone stand (1)
- Belt clip (1)

Design and specifications are subject to change without
notice.

Note

Use only the recommended
AC-E30HG AC power
adaptor (not supplied). Do
not use any other AC power
adaptor.



Polarity of the plug

RADIO CASSETTE RECORDER
SONY



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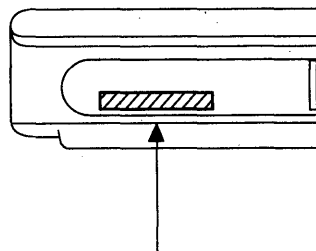
Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

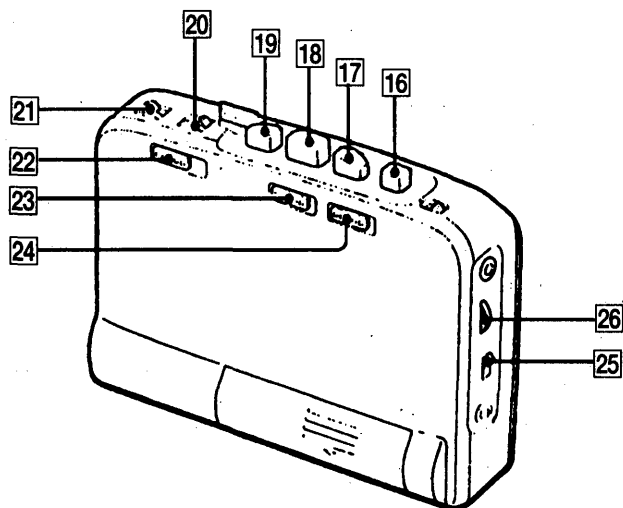
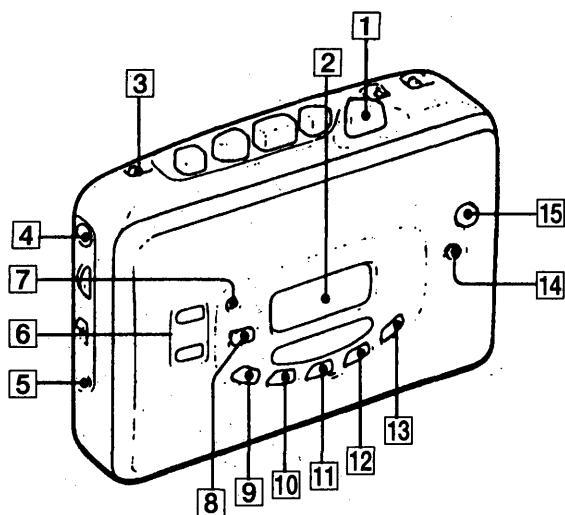
• How to identify TYPE 1 and TYPE 2 for E model — SPECIFICATION LABEL —



MADE IN MALAYSIA : TYPE 1
(NOTHING) : TYPE 2

SECTION 1 GENERAL

LOCATION OF PARTS AND CONTROLS

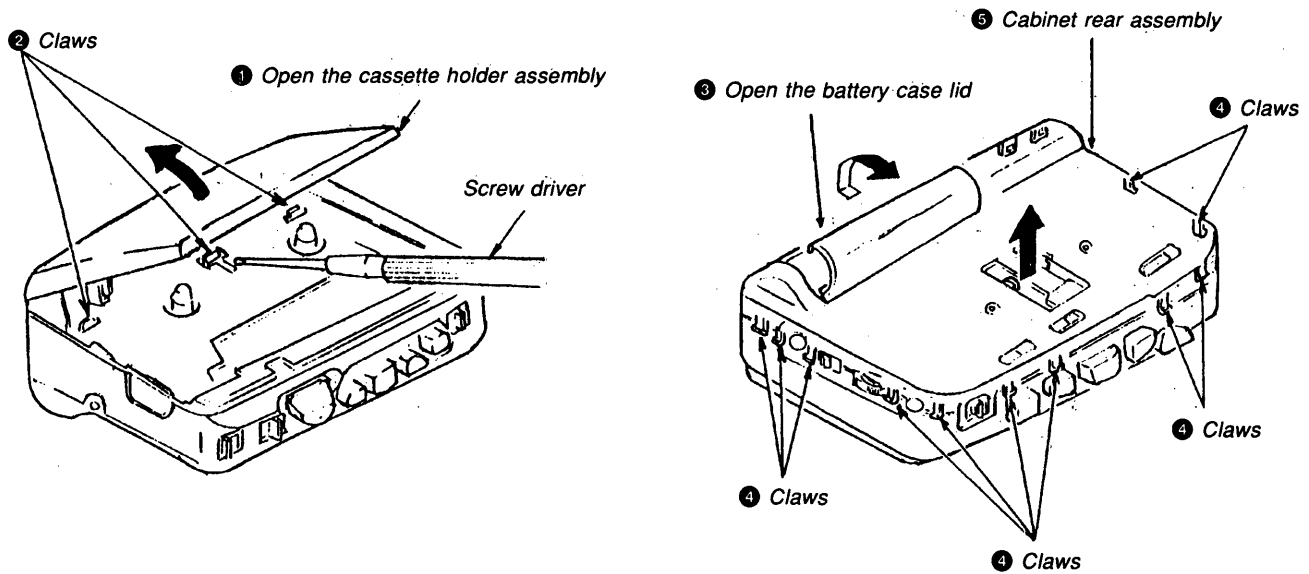


- 1** ● REC (recording) button
- 2** Display window
- 3** PB EQ (playback equalizer) selector
- 4** MIC (microphone) (PLUG IN POWER) jack
- 5** ⌚ (headphones) jack
- 6** TUNE -/+, MINUTE/HOUR buttons
- 7** BATT (battery) indicator
- 8** ENTER button
- FM/AM PRESET (preset number) buttons
- 9** 1 button
- 10** 2 button
- 11** 3 button
- 12** 4 button
- 13** 5 button
- 14** BAND (band select) button
- 15** RADIO ON/OFF button
- 16** ■ (stop) button
- 17** ►► (fast-forward) button
- 18** ◀◀ PLAY (playback) button
- 19** ◀◀ (rewind) button
- 20** ◀◀ DIR (tape transport direction change) selector
- 21** MODE (playback mode) selector
- 22** ISS (Interference Suppress Switch) selector
- 23** AVLS (Automatic Volume Limiter System) selector
- 24** FM MODE/DOLBY NR (PLAYBACK)
(Dolby Noise Reduction) switch
- 25** MEGA BASS selector
- 26** VOL ▲ (volume) control

SECTION 2 DISASSEMBLY

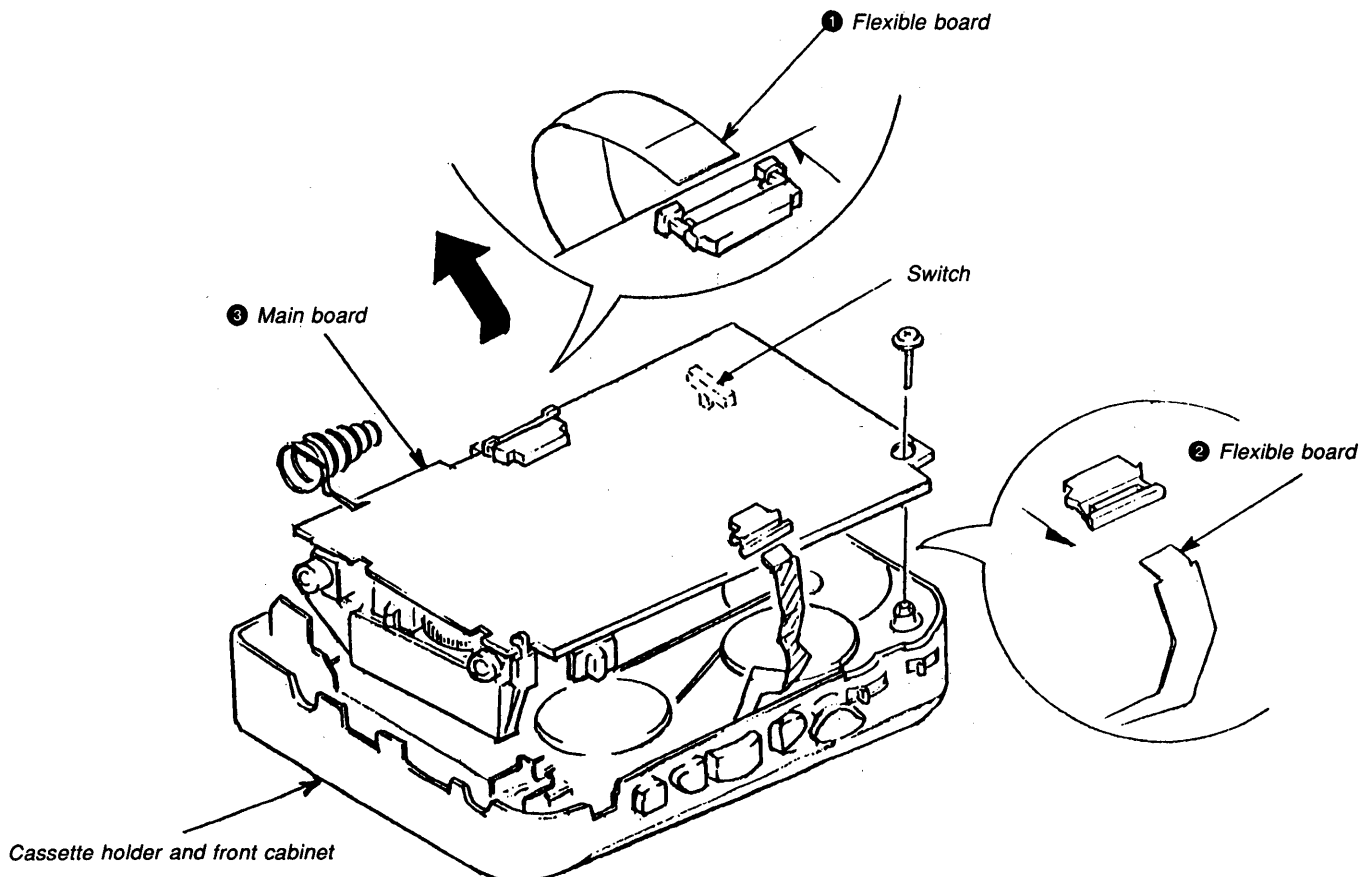
Note : Follow the disassembly procedure in the numerical order given.

2-1. CABINET REAR ASSY

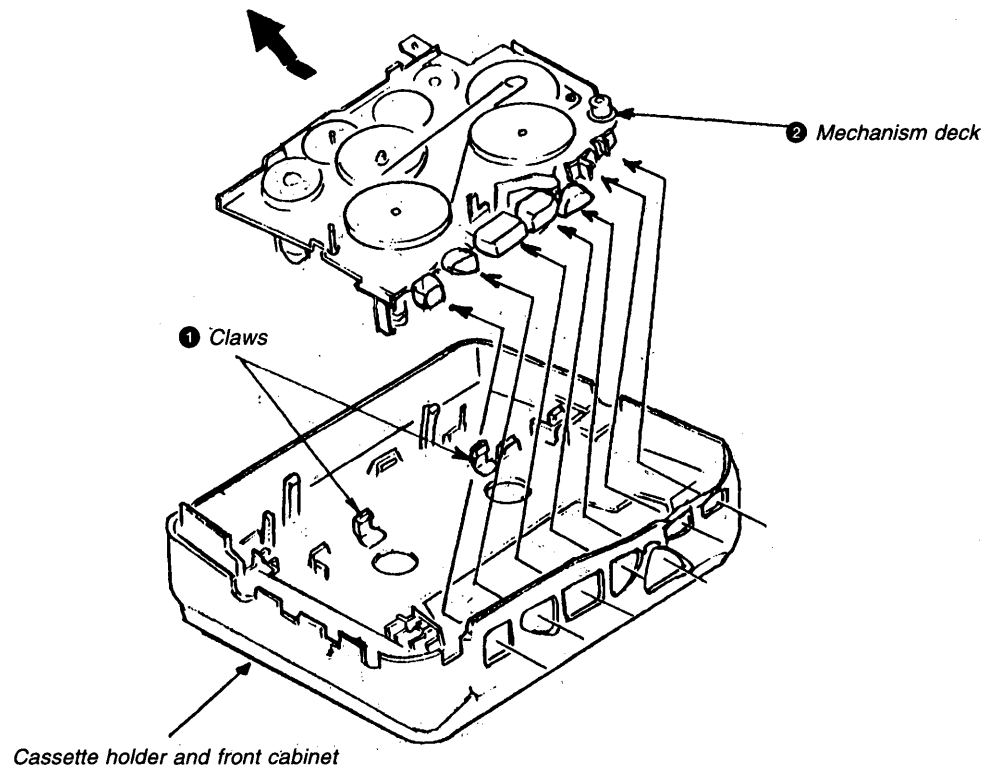


2-2. MAIN BOARD

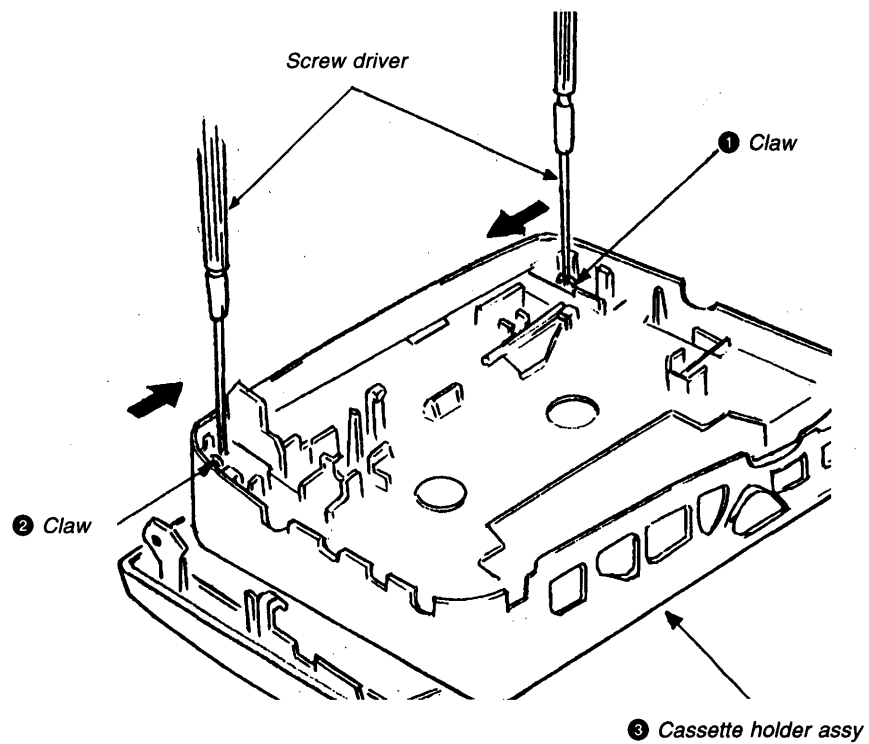
Note : Adjust the switch to playback side when mounting the display board.



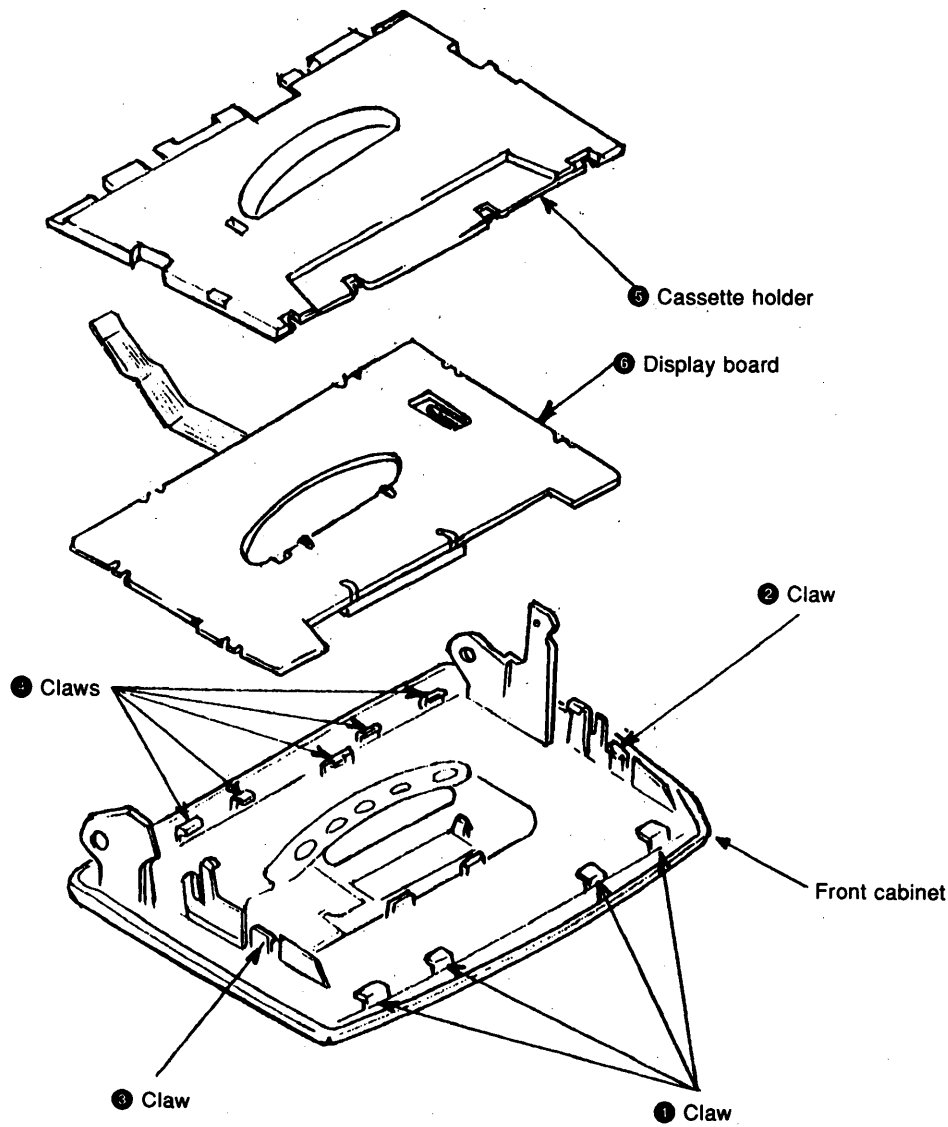
2-3. MECHANISM DECK



2-4. FRONT CABINET



2-5. DISPLAY BOARD



SECTION 3 ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :

REC/PB head	pinch roller
capstan	rubber belts
2. Demagnetize the REC/PB head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage (2.5V) unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	20 — 42 g • cm (0.28 — 0.58 oz • inch)
FWD Back Tension		less than 2 g • cm (less than 0.03 oz • inch)
REV	CQ-102RC	20 — 42 g • cm (0.28 — 0.58 oz • inch)
REV Back Tension		less than 2 g • cm (less than 0.03 oz • inch)
FF, REW	CQ-201B	more than 50 g • cm (more than 0.69 oz • inch)

3-2. ELECTRICAL ADJUSTMENTS

TAPE SECTION

PRECAUTION

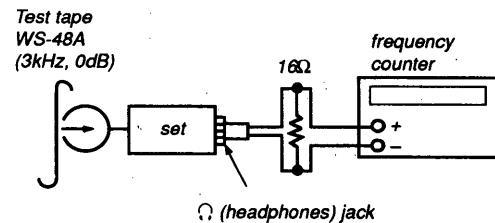
- Supplied voltage : 2.5V
- Switch and control position
 - PB EQ switch : NORM
 - DOLBY NR switch : OFF
 - MEGA BASS switch : NORM
 - ISS switch : 1
 - VOL control : maximum
 - AVLS switch : NORM

Test Tape

Tape	Signal	Used for
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment

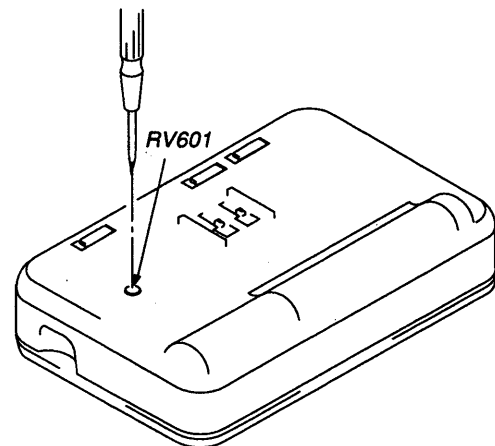
Tape speed adjustment

Procedure :



1. Play back WS-48A (tape center portion) in reverse mode.
Adjust the RV601 so that the frequency counter reads 3,000Hz $\pm$ 10Hz.

Adjustment Location :



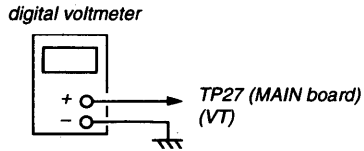
TUNER SECTION

FM SECTION

setting :

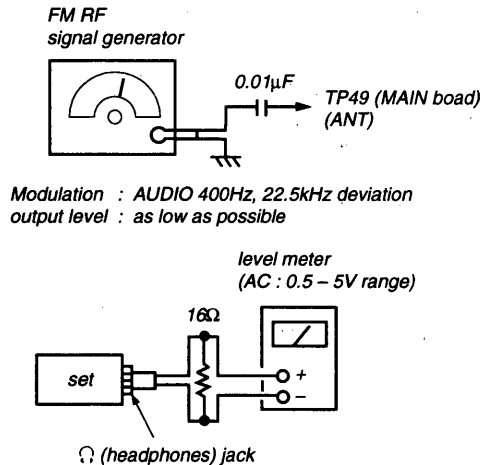
RADIO ON/OFF button : ON
BAND button : FM

FM TUNING VOLTAGE ADJUSTMENT



FM TUNING VOLTAGE ADJUSTMENT	
Adjust for a 1.50 ± 0.03 Vdc reading on digital voltmeter	
L3	
87.5 MHz	

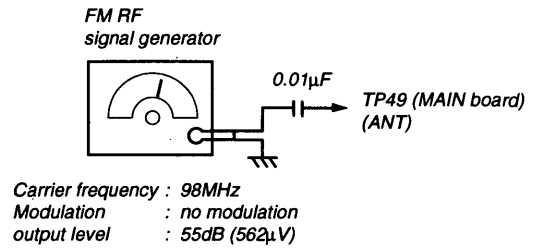
FM TRACKING ADJUSTMENT



- Repeat the procedures in each adjustment several times, and the tracking adjustment should be finally done by the trimmer capacitors.

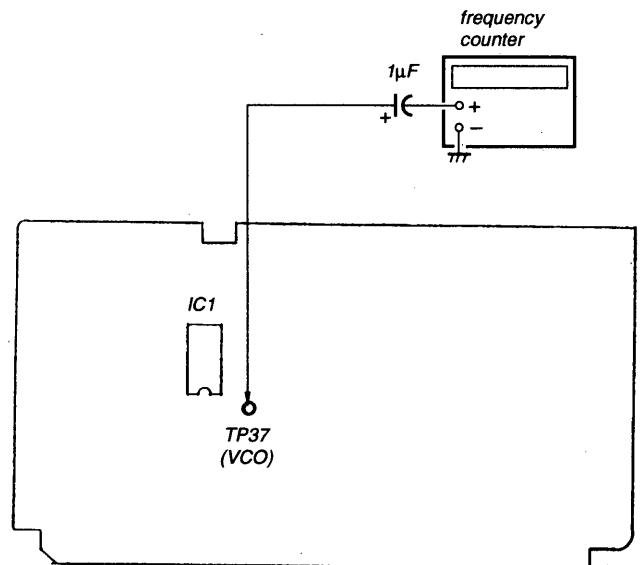
FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L2	CT2
87.5 MHz	108 MHz

VCO ADJUSTMENT



1. Connect the frequency counter to TP37 (VCO) as shown the figure below.
2. Turn the set to 98 MHz.
3. Adjust RV1 for 76 kHz $\pm$ 50 Hz reading on frequency counter.

[MAIN BOARD] (Side B)



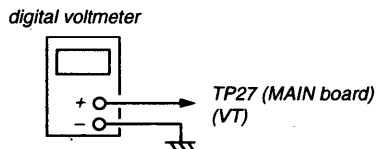
AM SECTION

setting :

RADIO ON/OFF button : ON

BAND button : AM

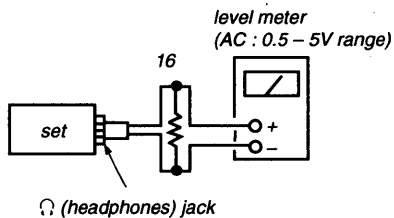
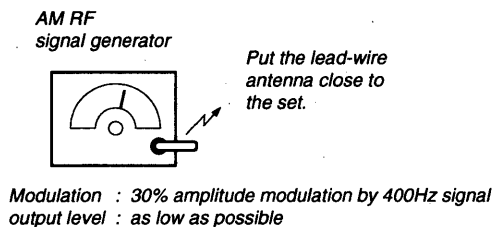
AM TUNING VOLTAGE ADJUSTMENT



AM TUNING VOLTAGE ADJUSTMENT	
Adjust for a 1.25 ± 0.03 Vdc reading on digital voltmeter	
L4	
530 (531) kHz	

() : EXCEPT Canadian model

AM IF ADJUSTMENT, AM TRACKING ADJUSTMENT



- Repeat the procedures in each adjustment several times, and the tracking adjustment should be finally done by the trimmer capacitors.

AM IF ADJUSTMENT	
Adjust for a maximum reading on level meter.	
T1	
1000 (999) kHz	

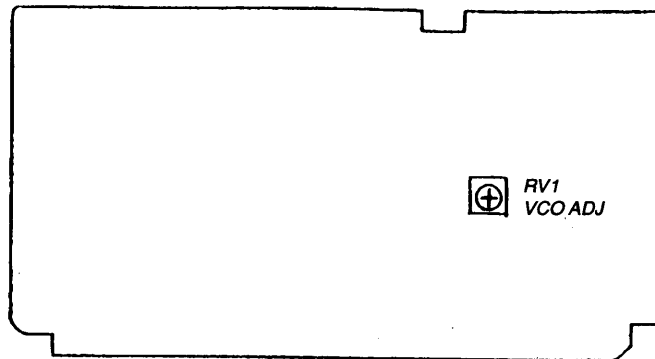
() : EXCEPT Canadian model

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L1	CT1
620 (621) kHz	1400 (1395) kHz

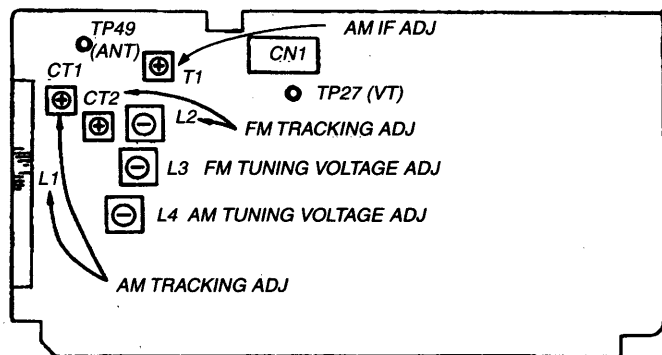
() : EXCEPT Canadian model

Adjustment Location :

[MAIN BOARD] (Side A)



[MAIN BOARD] (Side B)



SECTION 4 DIAGRAMS

4-1. IC PIN FUNCTION

• IC701 TUNER CONTROLLER/LCD DRIVE (μPD1724GB)

Pin No.	Pin Name	I/O	Function
1 to 10	S10 to S1	O	LCD segment signal output pin
11	NC	–	Not used
12 to 14	COM3 to COM1	O	LCD common signal output pin
15	VSS3	–	Pins connecting capacitors for doubler circuits generating the LCD drive voltage
16	CAP2	–	
17	CAP1	–	
18	VSS2	–	
19	MUTE	O	Mute signal output to turn off the shock noise due to the PLL's unlock, when the tuner power is on. ("H": MUTE)
20	BEEP	O	BEEP signal output terminal ("H": BEEP)
21	NC	–	Not used
22	VDD	–	The internal reset circuit functions when supplied with 0V to 1.5V
23	VCO (TV)	I	Not used
24	VCO (FM)	I	Partial oscillation frequency input pin (pulse swallow method) (PULL DOWN when CE is low)
25	VCO (AM)	I	
26	VSS1	–	Ground
27	E01	O	Not used
28	E02	O	Not used
29	CE	I	("H": when PLL operating, "L": when PLL stop)
30	XO	O	Connected to the liquid crystal oscillator
31	XI	I	Oscillates 75 kHz liquid crystals
32	VSS4	–	Connected to the regulator circuit capacitor
33	SD	I	No broadcasting station: HIGH output. With: LOW output
34	STEREO	I	Stereo level input ("L": Light on)
35	TAPE ON	I	Tape signal input ("H": TAPE)
36	REC ON	O	Rec signal input (35 pin and 36 pin are both "H": REC ON)
37	RADIO POWER	O	Radio power on ("H": RADIO mode)
38	BAND AM	O	Outputs HIGH potential only during AM reception
39	MOTOR ON	O	Motor control output ("H": MOTOR ON)
40	VERSION	O	Destination select signal output ("H": output)
41	PC3	O	Timing signal output for key matrix
42	PC2	O	Not used
43, 44	PC1, PC0	O	Timing signal output for key matrix
45 to 48	K3 to K0	I	Key input
49, 50	NC	–	Not used
51 to 56	S16 to S11	O	LCD segment signal output pin

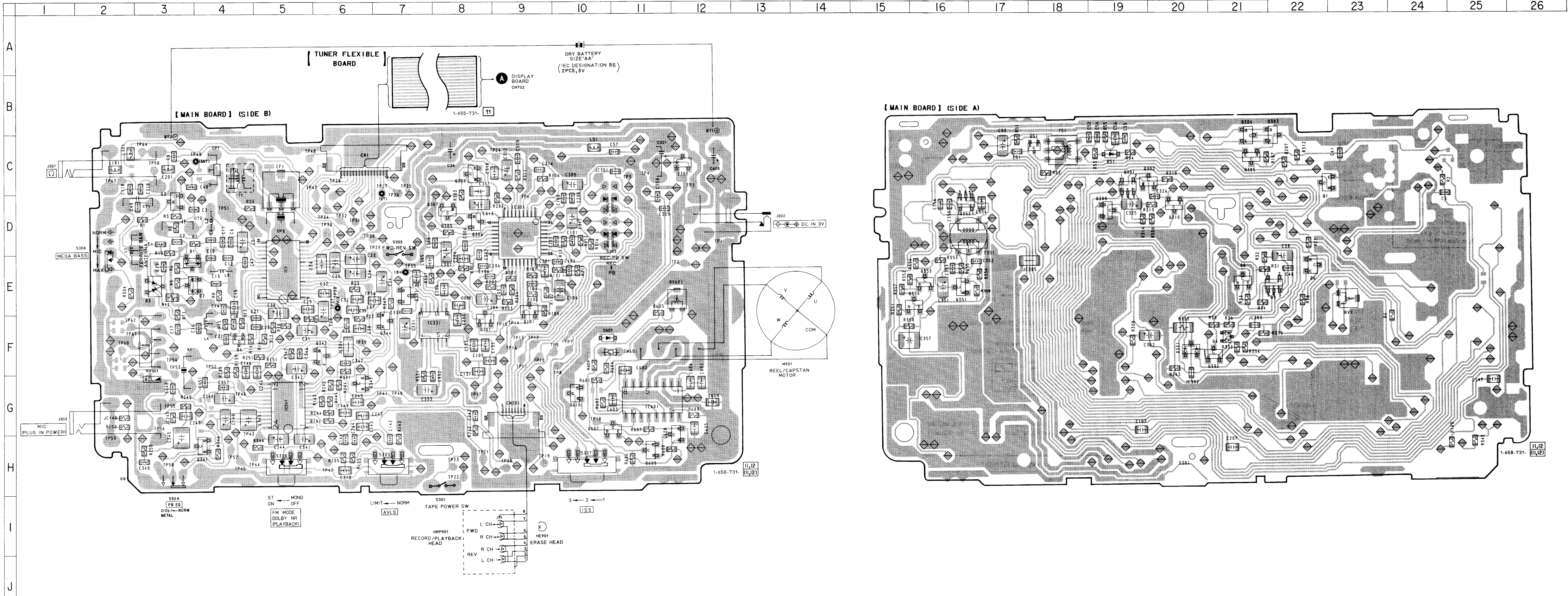
• Abbreviation

CE : Chip Enable
 LCD : Liquid Crystal Display
 PLL : Phase Locked Loop

4-2. PRINTED WIRING BOARD — MAIN SECTION —

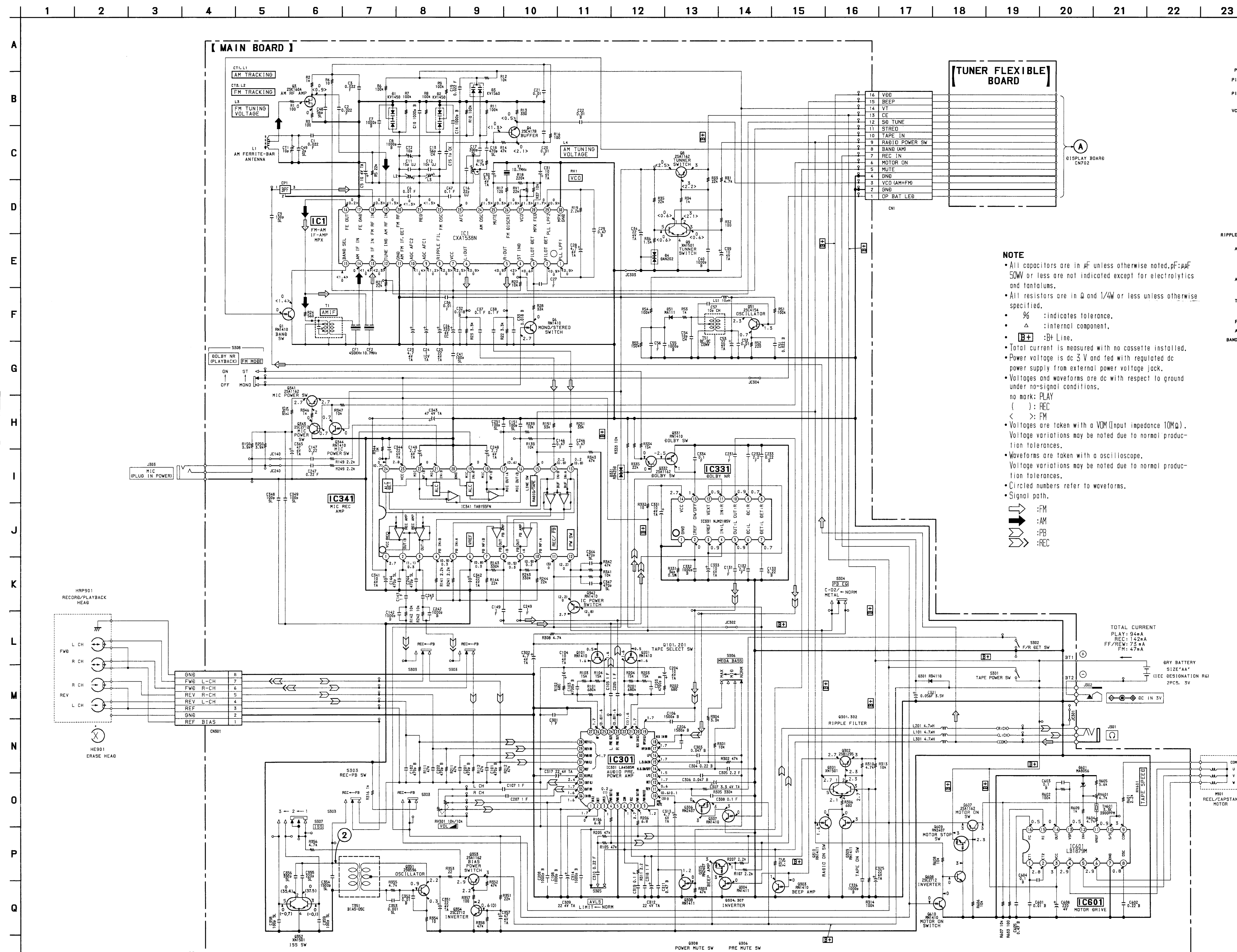
• Semiconductor Location

Ref. No.	Location
D1	E-3
D2	E-3
D3	E-3
D4	F-21
D51	C-19
D301	C-12
D331	F-20
D601	F-10
IC1	E-5
IC301	D-9
IC331	F-8
IC341	G-5
IC601	G-11
Q1	C-22
Q3	D-3
Q4	F-4
Q6	E-22
Q8	E-21
Q9	E-22
Q51	C-18
Q101	F-9
Q201	F-8
Q301	C-19
Q302	C-20
Q303	C-22
Q304	C-21
Q305	C-21
Q306	D-9
Q307	D-8
Q308	C-8
Q309	D-19
Q310	D-20
Q331	E-7
Q332	F-21
Q341	H-4
Q342	F-6
Q343	G-6
Q344	F-7
Q351	E-16
Q352	D-16
Q353	E-16
Q354	E-16
Q607	G-10
Q608	G-12
Q609	H-11
Q610	G-10



Note:

- : parts extracted from the component side.
- ◇ : Through hole.
- △ : internal component.
- ▨ : Pattern from the side which enable seeing. (The other layer's patterns are not indicated.)

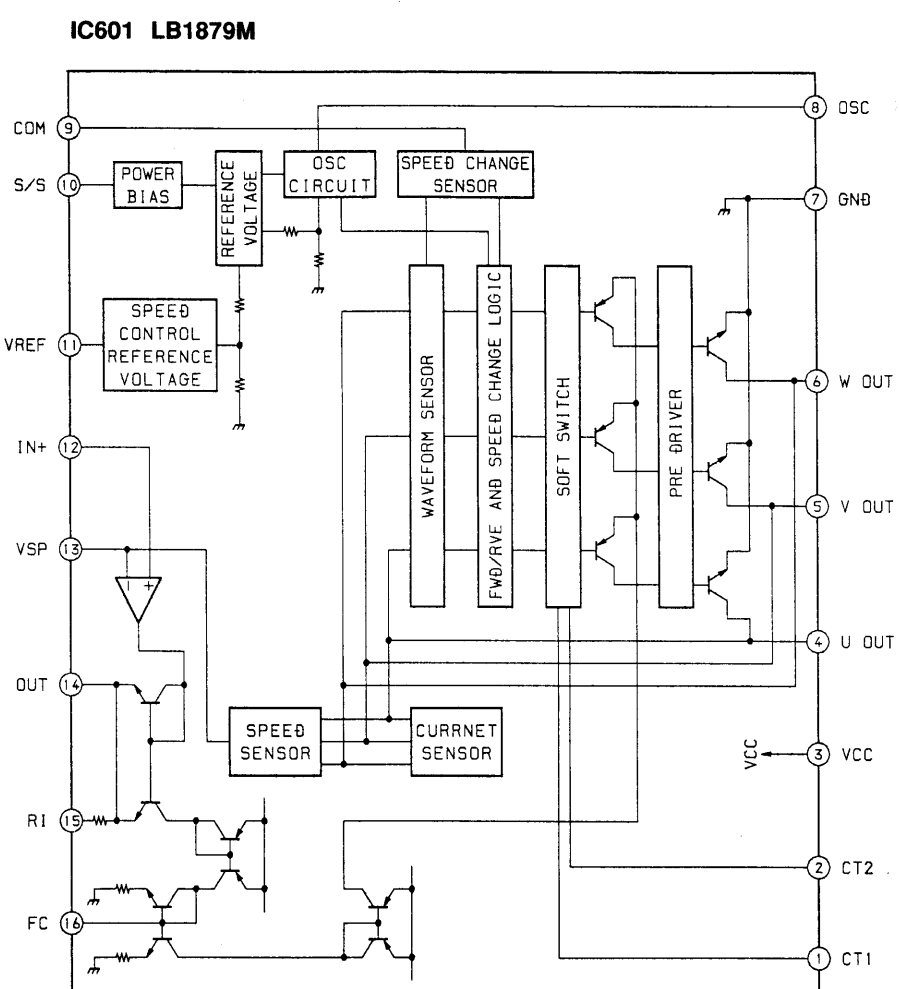
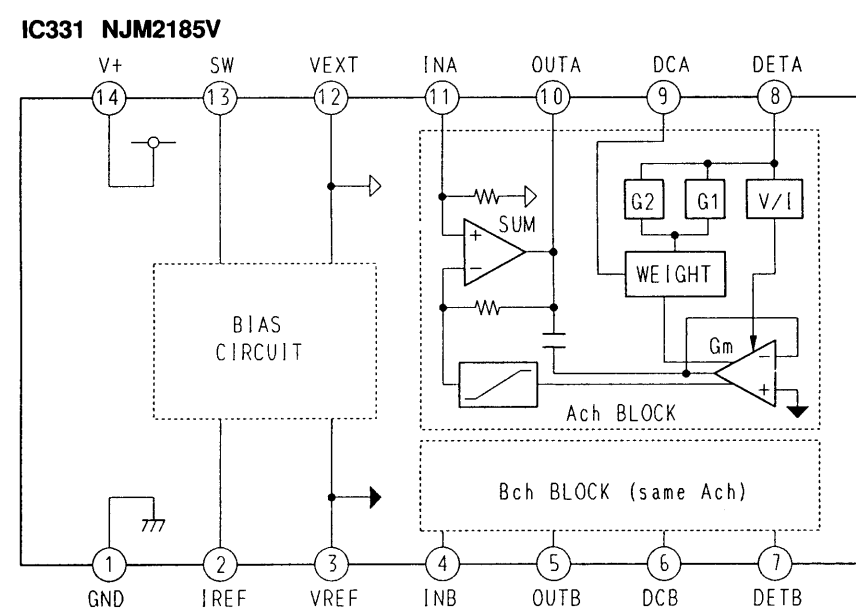
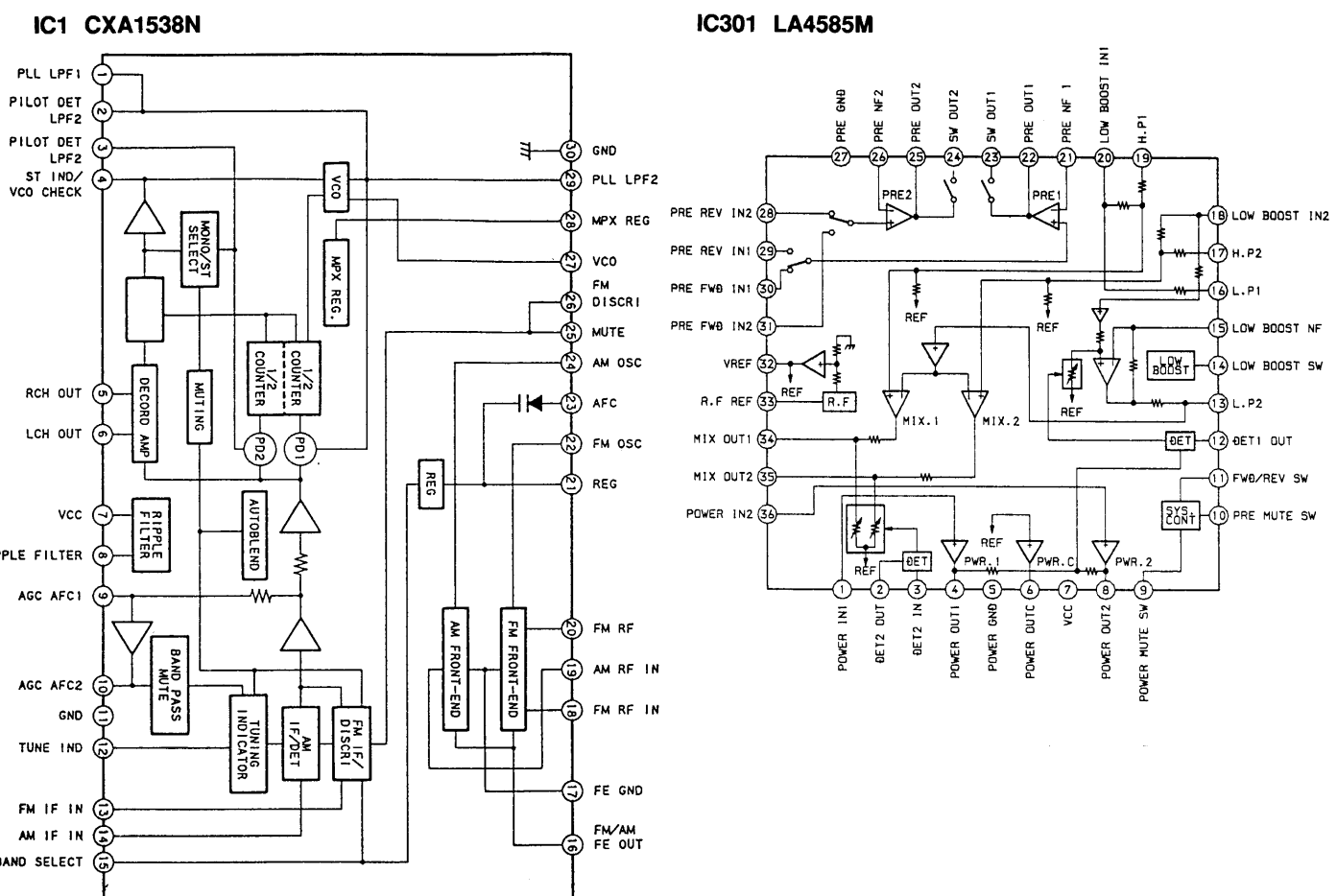


NOTE

- All capacitors are in μF unless otherwise noted. $\mu\text{F} = \mu\text{F}/1000$ and pF are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
 - $\%$: indicates tolerance.
 - Δ : internal component.
- **B+** : B+ Line.
- Total current is measured with no cassette installed.
- Power voltage is dc 3 V and fed with regulated dc power supply from external power voltage jack.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- no mark: PLAY
- () : REC
- < : FM
- > : FM
- Voltages are taken with a VOM (input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope.
- Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
 -  : FM
 -  : AM
 -  : PB
 -  : PC

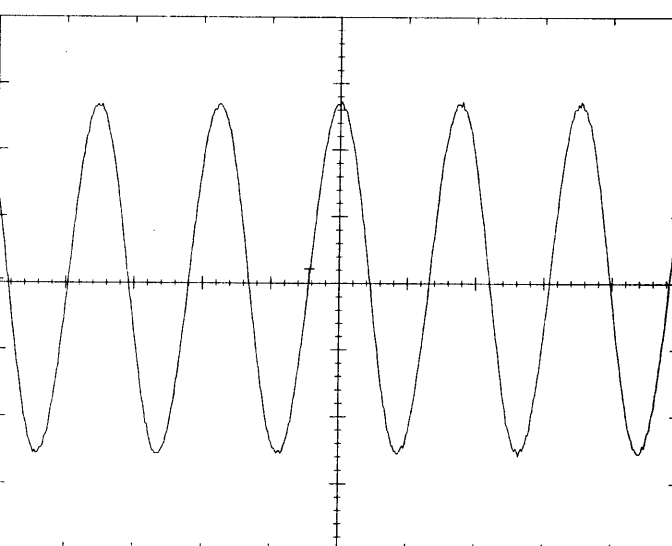
3 • IC Block Diagrams

— MAIN SECTION —



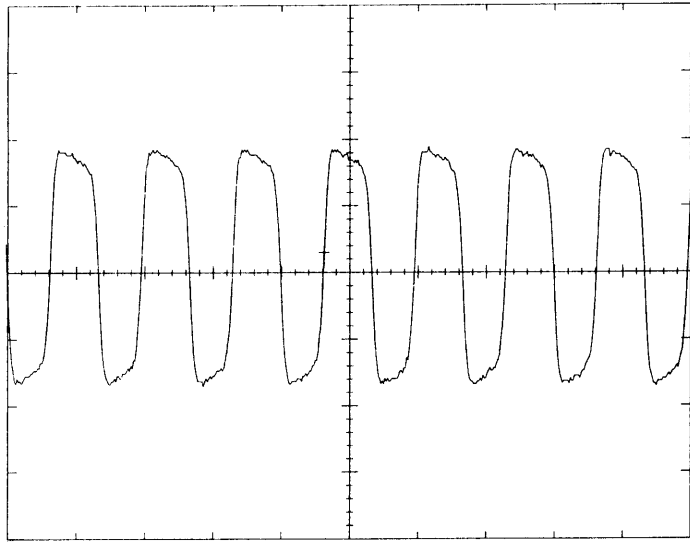
- **Waveform**

② 56.5kHz 106V T351 REC

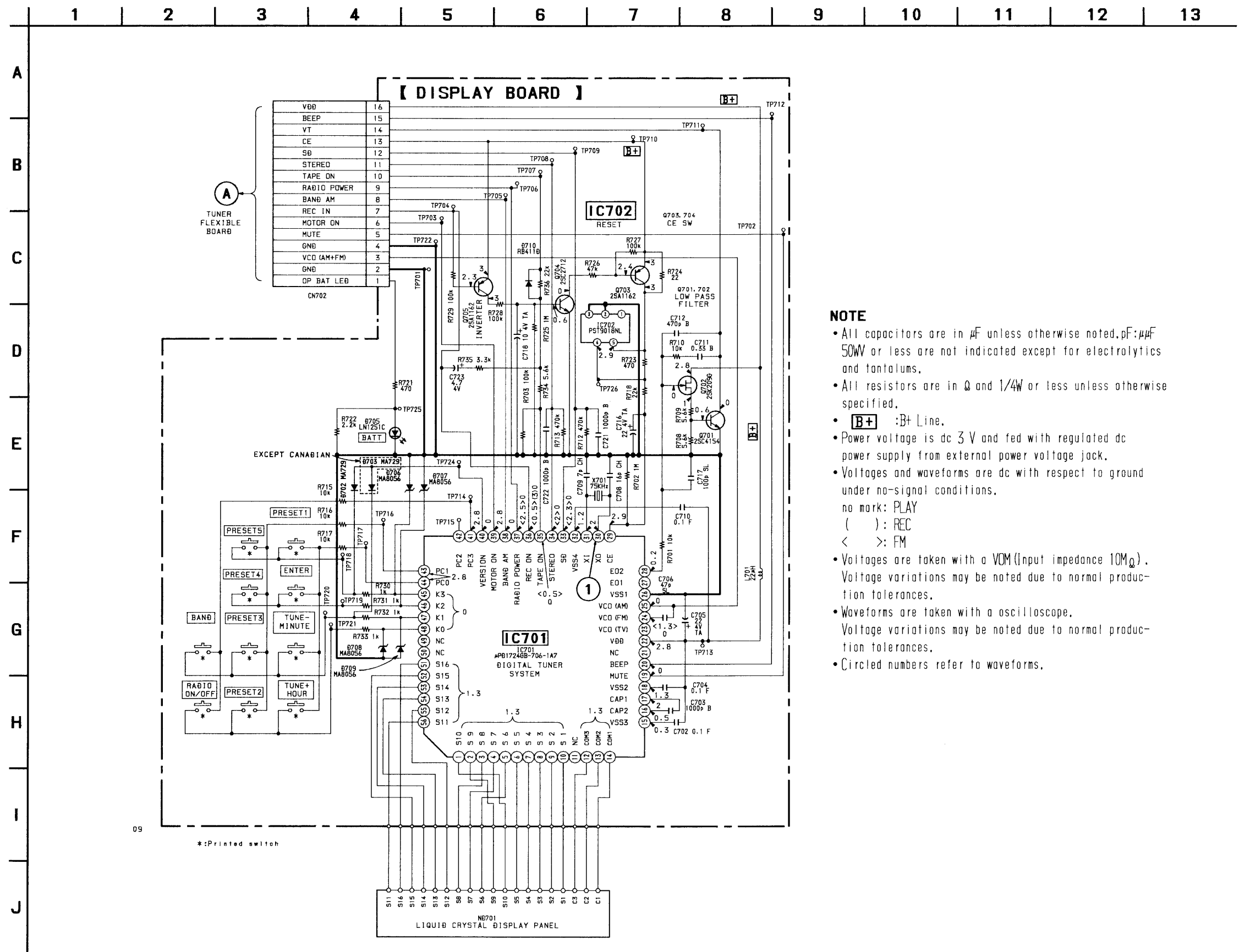


• Waveform

① 75kHz 1.8V IC701 @ pin



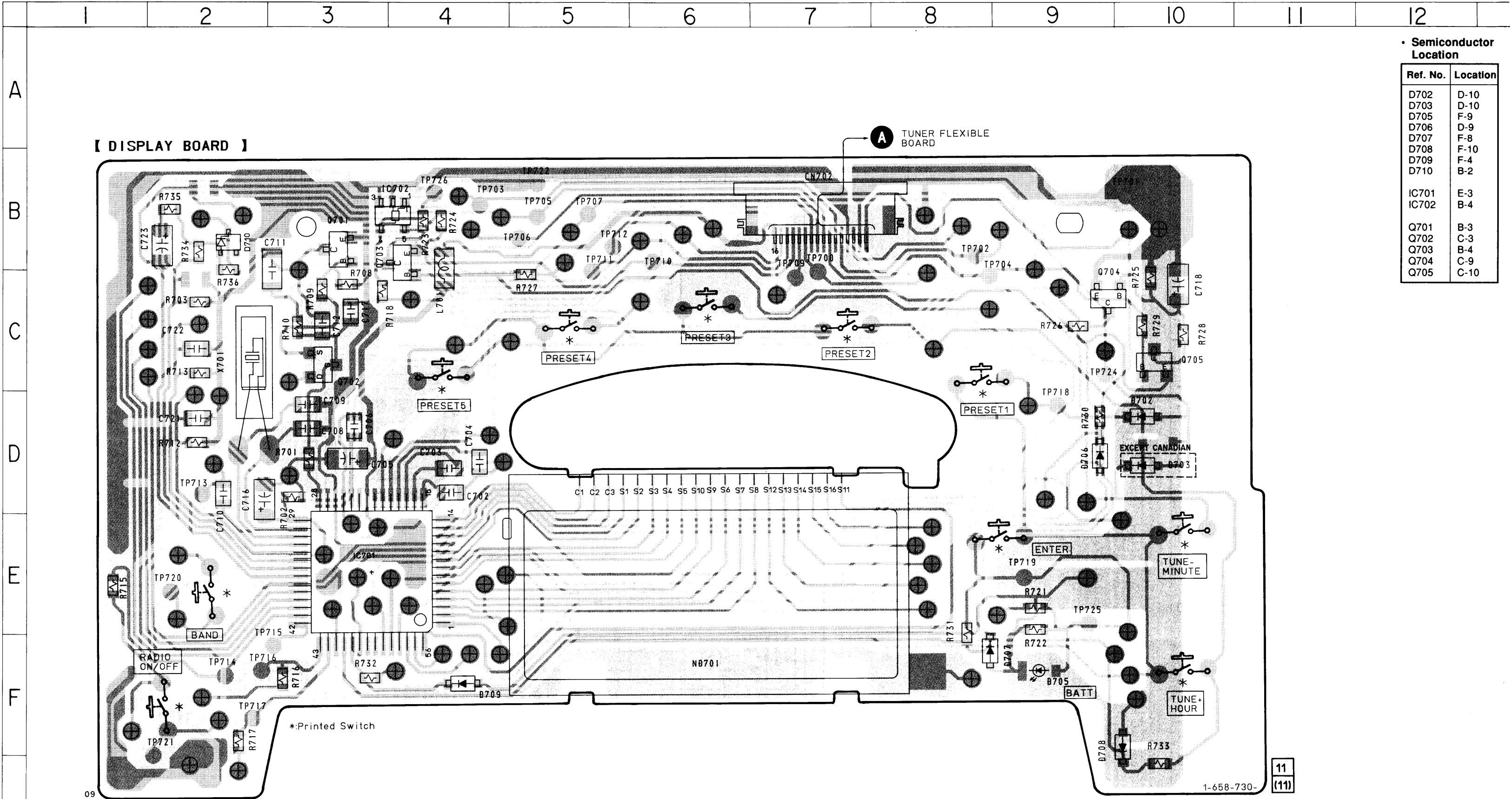
4-4. SCHEMATIC DIAGRAM — DISPLAY SECTION —
• See page 10 for IC Pin Function. (IC701)



NOTE

- All capacitors are in μF unless otherwise noted, $\text{pF}:\mu\text{F}$ 50W or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- **B+** :B+ Line.
- Power voltage is dc 3 V and fed with regulated dc power supply from external power voltage jack.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- no mark: PLAY
(): REC
< >: FM
- Voltages are taken with a VOM (input impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

4-5. PRINTED WIRING BOARD — DISPLAY SECTION —



Semiconductor Location	
Ref. No.	Location
D702	D-10
D703	D-10
D705	F-9
D706	D-9
D707	F-9
D708	F-10
D709	F-4
D710	B-2
IC701	E-3
IC702	B-4
Q701	B-3
Q702	C-3
Q703	B-4
Q704	C-9
Q705	C-10

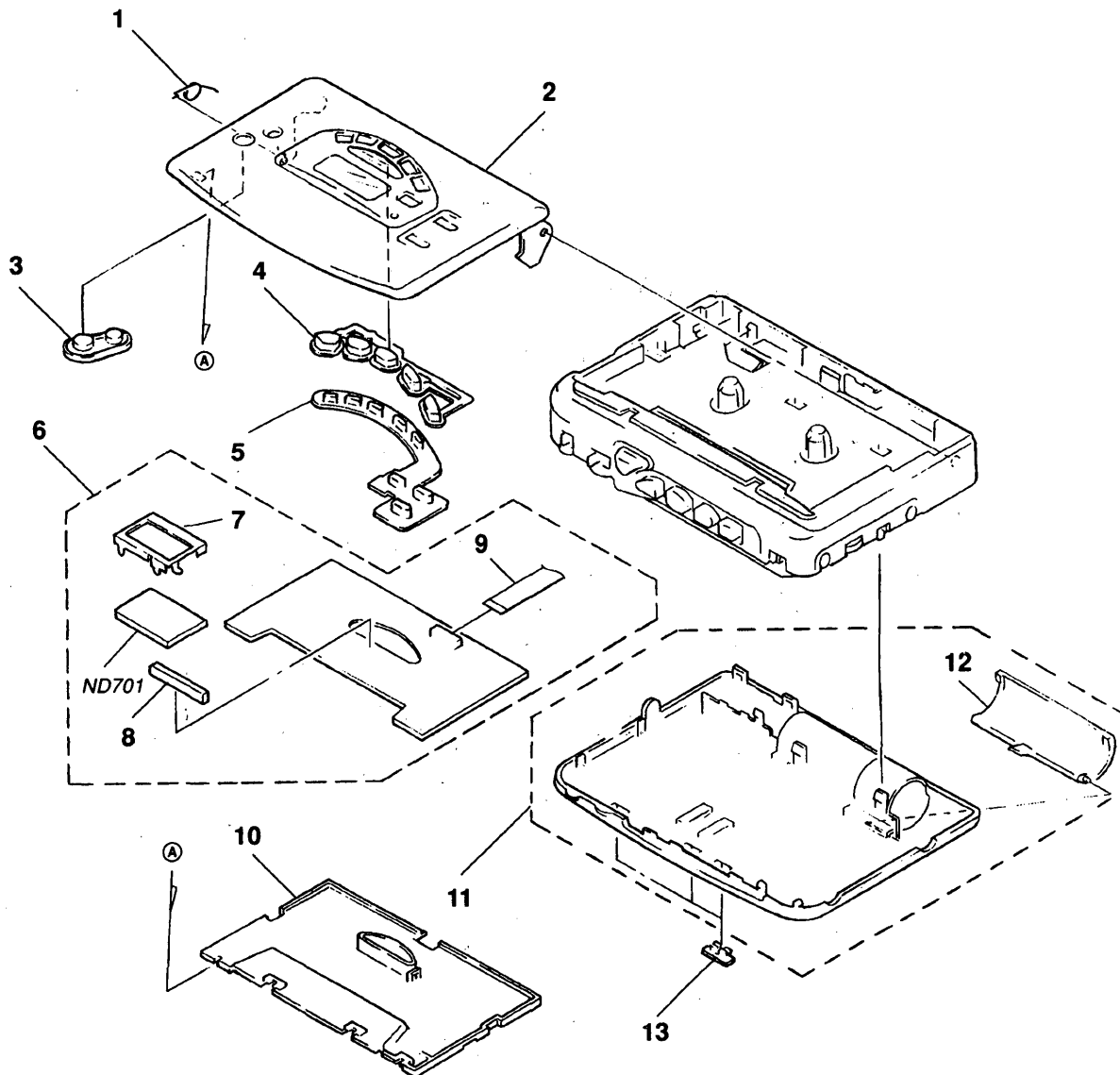
REVISED

SECTION 5 EXPLODED VIEWS

NOTE:

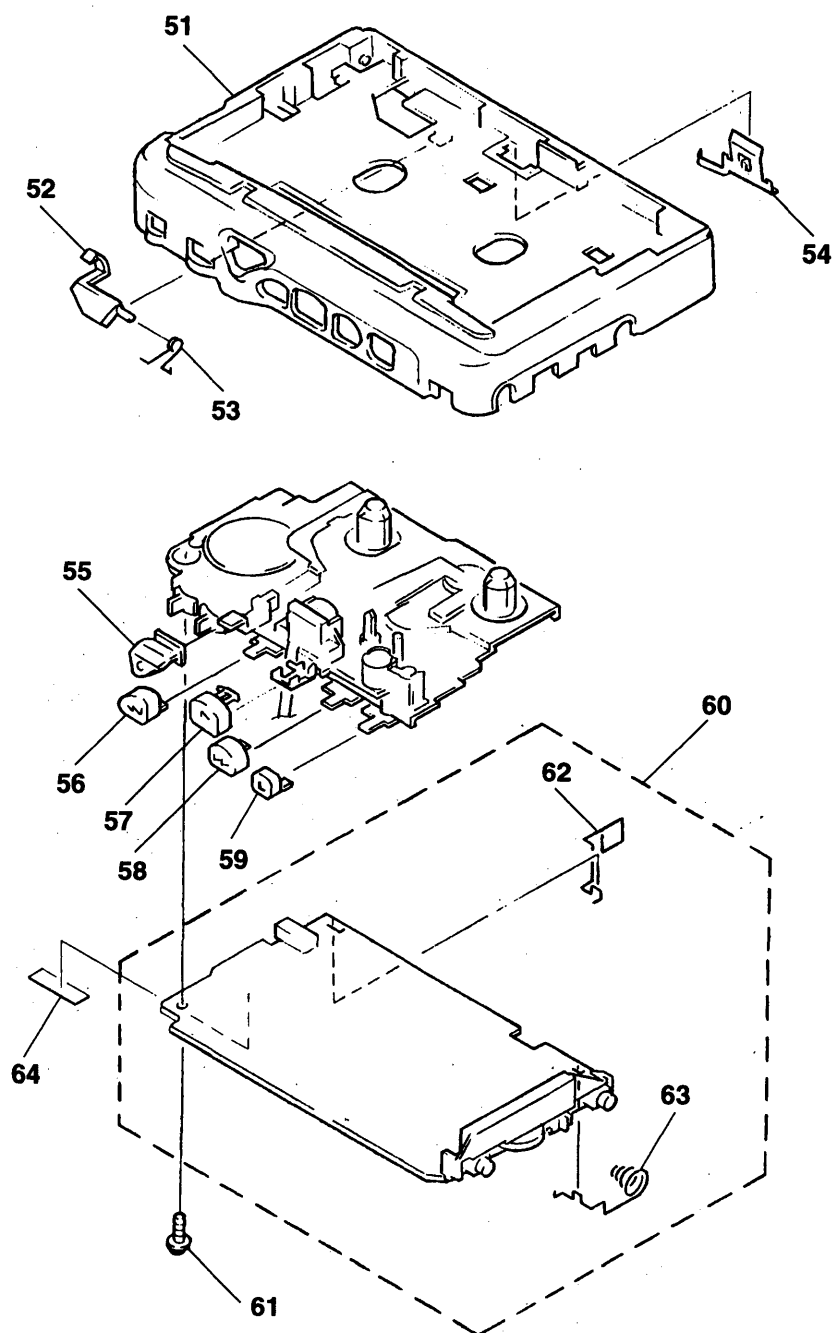
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
CND : Canadian model
EA : Saudi Arabia model
- How to identify E : TYPE 1 and E : TYPE 2, refer to "How to identify TYPE 1 and TYPE 2 for E model" (page 2).

5-1. CASSETTE HOLDER ASSEMBLY



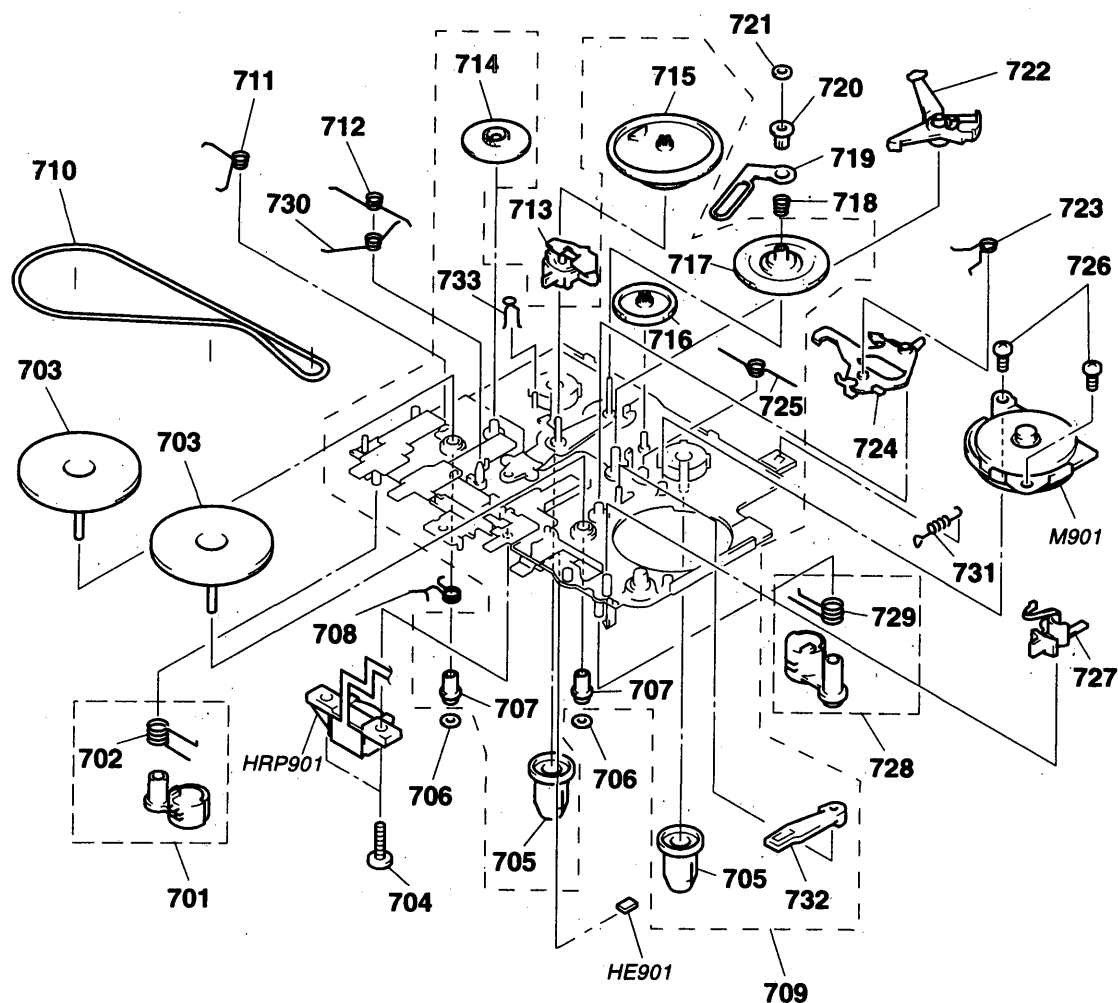
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-921-954-01	SPRING (LID UP)		8	1-537-863-11	CONDUCTIVE BOARD, CONNECTION	
2	3-930-029-01	LID, CASSETTE		9	1-655-731-11	TUNER FLEXIBLE BOARD	
3	3-930-033-01	BUTTON (BAND)		10	3-930-030-01	COVER	
4	3-930-031-01	BUTTON (TOP)		11	X-3371-172-1	CABINET (REAR) ASSY	
5	3-930-032-01	BUTTON (PRESET)		12	3-929-395-01	LID, BATTERY CASE	
6	A-3016-837-A	DISPLAY BOARD, COMPLETE (CND)		13	3-930-022-01	KNOB (AVLS)	
6	A-3016-750-A	DISPLAY BOARD, COMPLETE (EXCEPT CND)		ND701	1-801-075-11	DISPLAY PANEL, LIQUID CRYSTAL	
* 7	3-921-964-01	CASE (LCD)					

5-2. MAIN BOARD SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-930-034-01	CABINET (FRONT)(CND, E: TYPE1, EA)		58	3-930-025-01	BUTTON (FF)	
51	3-930-034-11	CABINET (FRONT)(AEP, E: TYPE2)		59	3-930-023-01	BUTTON (STOP)	
52	3-930-035-01	LEVER (REC)		60	A-3016-749-A	MAIN BOARD, COMPLETE	
53	3-930-036-01	SPRING (REC)		61	3-921-955-01	SCREW (M1.4), TOOTH (WH)	
54	3-932-037-01	SPRING (CASSETTE)		62	3-930-027-01	TERMINAL, BATTERY (+)	
55	3-930-021-01	BUTTON (REC)		63	3-930-028-01	SPRING, BATTERY COIL (-)	
56	3-930-026-01	BUTTON (REW)		64	3-831-441-11	SPACER	
57	3-930-024-01	BUTTON (PLAY)					

5-3. MECHANISM SECTION (MF-WMGX414-114)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
701	X-3369-749-1	PINCH LEVER (N) ASSY		720	3-923-530-01	SLEEVE (M)	
702	3-920-996-01	SPRING (PINCH N)		721	3-728-091-01	WASHER, STOPPER	
703	X-3369-747-1	WHEEL ASSY, CAPSTAN		722	3-921-052-01	LEVER (A), DETECTION	
704	3-704-197-71	SCREW (M1.4X4.5), LOCKING		723	3-920-994-11	SPRING (D SELECTION)	
705	3-921-042-01	GEAR (REEL)		724	3-929-419-01	LEVER (BR), DETECTION	
706	3-921-797-01	WASHER		725	3-920-995-11	SPRING (PLAY)	
707	3-921-003-01	BEARING		726	3-703-816-31	SCREW (M1.4X1.6), SPECIAL HEAD	
708	3-920-993-01	SPRING (NR)		727	3-921-023-01	LEVER, M SELECTION	
709	X-3372-316-1	CHASSIS COMPLETE ASSY (R)		728	X-3369-748-1	PINCH LEVER (R) ASSY	
710	3-354-868-11	BELT		729	3-920-997-01	SPRING (PINCH R)	
711	3-920-992-01	SPRING (STOP)		730	3-931-387-01	SPRING (SW)	
712	3-920-991-01	SPRING (FR)		731	3-929-414-01	SPRING (REC)	
713	3-929-417-01	LEVER (R), D SELECTION		732	3-929-415-01	LEVER (D), DETECTION	
714	3-921-043-01	GEAR (D)		733	3-933-324-01	SPRING (FR LEVER)	
715	X-3369-752-1	CLUTCH ASSY		HE901	1-500-291-11	HEAD, MAGNETIC (ERASE)	
716	3-920-999-01	GEAR (A)		HRP901	1-500-292-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	
717	3-921-050-01	GEAR (B)					
718	3-920-990-01	SPRING (UD), COMPRESSION					
719	3-921-335-01	WASHER, LEVER		M901	1-698-457-11	MOTOR (REEL/CAPSTAN)	

DISPLAY

SECTION 6 ELECTRICAL PARTS LIST

Note:

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable

- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA...: μ PA..., uPB...: μ PB...,
uPC...: μ PC..., uPD...: μ PD...
- CAPACITORS
uF: μ F
- COILS
uH: μ H
- Abbreviation
CND : Canadian model
EA : Saudi Arabia model
- How to identify E: TYPE 1 and E: TYPE 2, refer to "How to identify TYPE 1 and TYPE 2 for E model" (page 2).

Ref. No.	Part No.	Description	Remark
	A-3016-750-A	DISPLAY BOARD, COMPLETE (EXCEPT CND) *****	
	A-3016-837-A	DISPLAY BOARD, COMPLETE (CND) *****	
	1-537-863-11	CONDUCTIVE BOARD, CONNECTION	
	1-655-731-11	TUNER FLEXIBLE BOARD	
*	3-921-964-01	CASE (LCD)	
		< CAPACITOR >	
C702	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C703	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C704	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C705	1-104-847-11	TANTAL. CHIP 22uF	20% 4V
C706	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C708	1-163-098-00	CERAMIC CHIP 16PF	5% 50V
C709	1-163-224-11	CERAMIC CHIP 7PF	0.25PF 50V
C710	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C711	1-162-568-11	CERAMIC CHIP 0.33uF	10% 16V
C712	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
C716	1-104-847-11	TANTAL. CHIP 22uF	20% 4V
C717	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C718	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
C721	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C722	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V
C723	1-109-934-11	TANTAL. CHIP 4.7uF	20% 4V
		< CONNECTOR >	
CN702	1-766-584-11	CONNECTOR, FPC (ZIF) 16P	
		< DIODE >	
D702	8-719-420-51	DIODE MA729	
D703	8-719-420-51	DIODE MA729 (EXCEPT CND)	
D705	8-719-404-19	DIODE LN1251C (BATT)	
D706	8-719-422-46	DIODE MA8056	
D707	8-719-422-46	DIODE MA8056	
D708	8-719-422-46	DIODE MA8056	
D709	8-719-422-46	DIODE MA8056	
D710	8-719-975-40	DIODE RB411D	
		< IC >	
IC701	8-759-362-26	IC uPD1724GB-706-1A7	

Ref. No.	Part No.	Description	Remark
IC702	8-759-296-60	IC PST9018NL	
		< COIL >	
L701	1-410-946-31	INDUCTOR CHIP 22uH	
		< FLUORECENT INDICATOR >	
ND701	1-801-075-11	DISPLAY PANEL, LIQUID CRYSTAL	
		< TRANSISTOR >	
Q701	8-729-602-21	TRANSISTOR 2SC4154-F	
Q702	8-729-220-93	TRANSISTOR 2SK209-G	
Q703	8-729-216-22	TRANSISTOR 2SA1162-G	
Q704	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q705	8-729-216-22	TRANSISTOR 2SA1162-G	
		< RESISTOR >	
R701	1-216-833-11	METAL CHIP 10K	5% 1/16W
R702	1-216-857-11	METAL CHIP 1M	5% 1/16W
R703	1-216-845-11	METAL CHIP 100K	5% 1/16W
R708	1-216-830-11	METAL CHIP 5.6K	5% 1/16W
R709	1-216-830-11	METAL CHIP 5.6K	5% 1/16W
R710	1-216-833-11	METAL CHIP 10K	5% 1/16W
R712	1-216-853-11	METAL CHIP 470K	5% 1/16W
R713	1-216-853-11	METAL CHIP 470K	5% 1/16W
R715	1-216-833-11	METAL CHIP 10K	5% 1/16W
R716	1-216-833-11	METAL CHIP 10K	5% 1/16W
R717	1-216-833-11	METAL CHIP 10K	5% 1/16W
R718	1-216-837-11	METAL CHIP 22K	5% 1/16W
R721	1-216-817-11	METAL CHIP 470	5% 1/16W
R722	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R723	1-216-817-11	METAL CHIP 470	5% 1/16W
R724	1-216-801-11	METAL CHIP 22	5% 1/16W
R725	1-216-857-11	METAL CHIP 1M	5% 1/16W
R726	1-216-841-11	METAL CHIP 47K	5% 1/16W
R727	1-216-845-11	METAL CHIP 100K	5% 1/16W
R728	1-216-845-11	METAL CHIP 100K	5% 1/16W
R729	1-216-845-11	METAL CHIP 100K	5% 1/16W
R730	1-216-821-11	METAL CHIP 1K	5% 1/16W
R731	1-216-821-11	METAL CHIP 1K	5% 1/16W
R732	1-216-821-11	METAL CHIP 1K	5% 1/16W
R733	1-216-821-11	METAL CHIP 1K	5% 1/16W
R734	1-216-830-11	METAL CHIP 5.6K	5% 1/16W

Ref. No.	Part No.	Description	Remark
R735	1-216-827-11	METAL CHIP 3.3K	5% 1/16W
R736	1-216-837-11	METAL CHIP 22K	5% 1/16W

< VIBRATOR >

X701 1-577-262-11 VIBRATOR, CRYSTAL (75kHz)

A-3016-749-A MAIN BOARD, COMPLETE

3-930-027-01 TERMINAL (+), BATTERY

3-930-028-01 SPRING, BATTERY COIL

< CAPACITOR >

C1	1-162-995-11	CERAMIC CHIP	0.022uF	50V
C2	1-162-995-11	CERAMIC CHIP	0.022uF	50V
C3	1-162-995-11	CERAMIC CHIP	0.022uF	50V
C5	1-135-201-11	TANTALUM CHIP	10uF	20% 4V
C6	1-162-974-11	CERAMIC CHIP	0.01uF	50V
C7	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V
C8	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V
C9	1-162-953-11	CERAMIC CHIP	100PF	5% 50V
C10	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V
C11	1-164-118-11	CERAMIC CHIP	15PF	5% 50V
C12	1-162-997-11	CERAMIC CHIP	10PF	0.5PF 50V
C13	1-162-924-11	CERAMIC CHIP	56PF	5% 50V
C14	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V
C15	1-163-217-11	CERAMIC CHIP	1PF	0.25PF 50V
C16	1-162-998-11	CERAMIC CHIP	22PF	5% 50V
C17	1-164-145-11	CERAMIC CHIP	390PF	5% 50V
C18	1-164-362-11	CERAMIC CHIP	470PF	5% 50V
C19	1-162-995-11	CERAMIC CHIP	0.022uF	50V
C20	1-162-974-11	CERAMIC CHIP	0.01uF	50V
C21	1-162-974-11	CERAMIC CHIP	0.01uF	50V
C22	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V
C23	1-135-151-21	TANTALUM CHIP	4.7uF	20% 4V
C24	1-135-208-11	TANTAL. CHIP	1uF	20% 10V
C25	1-104-847-11	TANTAL. CHIP	22uF	20% 4V
C26	1-124-434-00	ELECT	220uF	20% 4V
C27	1-164-346-11	CERAMIC CHIP	1uF	16V
C28	1-135-151-21	TANTALUM CHIP	4.7uF	20% 4V
C29	1-107-823-11	CERAMIC CHIP	0.47uF	10% 16V
C30	1-135-221-11	TANTAL. CHIP	3.3uF	20% 4V
C31	1-135-201-11	TANTALUM CHIP	10uF	20% 4V
C32	1-163-024-00	CERAMIC CHIP	0.018uF	10% 50V
C33	1-163-024-00	CERAMIC CHIP	0.018uF	10% 50V
C34	1-104-847-11	TANTAL. CHIP	22uF	20% 4V
C36	1-163-059-00	CERAMIC CHIP	0.01uF	10% 50V
C37	1-163-038-91	CERAMIC CHIP	0.1uF	25V
C38	1-163-038-91	CERAMIC CHIP	0.1uF	25V
C39	1-135-201-11	TANTALUM CHIP	10uF	20% 4V
C40	1-162-964-11	CERAMIC CHIP	0.001uF	10% 50V

Ref. No.	Part No.	Description	Remark
C41	1-162-953-11	CERAMIC CHIP	100PF 5% 50V
C47	1-164-156-11	CERAMIC CHIP	0.1uF 25V
C48	1-162-950-11	CERAMIC CHIP	56PF 5% 50V
C49	1-162-932-11	CERAMIC CHIP	2PF 0.25PF 50V
C51	1-164-227-11	CERAMIC CHIP	0.022uF 10% 25V
C52	1-162-974-11	CERAMIC CHIP	0.01uF 50V
C53	1-104-847-11	TANTAL. CHIP	22uF 20% 4V
C54	1-162-915-11	CERAMIC CHIP	10PF 0.5PF 50V
C55	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V
C56	1-164-346-11	CERAMIC CHIP	1uF 16V
C57	1-162-915-11	CERAMIC CHIP	10PF 0.5PF 50V
C101	1-162-962-11	CERAMIC CHIP	470PF 10% 50V
C102	1-162-962-11	CERAMIC CHIP	470PF 10% 50V
C103	1-162-968-11	CERAMIC CHIP	0.0047uF 10% 50V
C104	1-135-201-11	TANTALUM CHIP	10uF 20% 4V
C105	1-164-346-11	CERAMIC CHIP	1uF 16V
C106	1-162-965-11	CERAMIC CHIP	0.0015uF 10% 50V
C107	1-164-346-11	CERAMIC CHIP	1uF 16V
C108	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V
C131	1-164-346-11	CERAMIC CHIP	1uF 16V
C132	1-164-505-11	CERAMIC CHIP	2.2uF 16V
C133	1-164-489-11	CERAMIC CHIP	0.22uF 10% 16V
C142	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V
C143	1-164-346-11	CERAMIC CHIP	1uF 16V
C144	1-164-362-11	CERAMIC CHIP	470PF 5% 50V
C146	1-164-005-11	CERAMIC CHIP	0.47uF 25V
C147	1-164-222-11	CERAMIC CHIP	0.22uF 25V
C148	1-135-187-21	TANTAL. CHIP	2.2uF 20% 4V
C149	1-164-346-11	CERAMIC CHIP	1uF 16V
C151	1-162-953-11	CERAMIC CHIP	100PF 5% 50V
C201	1-162-962-11	CERAMIC CHIP	470PF 10% 50V
C202	1-162-962-11	CERAMIC CHIP	470PF 10% 50V
C203	1-162-968-11	CERAMIC CHIP	0.0047uF 10% 50V
C204	1-135-201-11	TANTALUM CHIP	10uF 20% 4V
C205	1-164-346-11	CERAMIC CHIP	1uF 16V
C206	1-162-965-11	CERAMIC CHIP	0.0015uF 10% 50V
C207	1-164-346-11	CERAMIC CHIP	1uF 16V
C208	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V
C231	1-164-346-11	CERAMIC CHIP	1uF 16V
C232	1-164-505-11	CERAMIC CHIP	2.2uF 16V
C233	1-164-489-11	CERAMIC CHIP	0.22uF 10% 16V
C242	1-162-964-11	CERAMIC CHIP	0.001uF 10% 50V
C243	1-164-346-11	CERAMIC CHIP	1uF 16V
C244	1-164-362-11	CERAMIC CHIP	470PF 5% 50V
C246	1-164-005-11	CERAMIC CHIP	0.47uF 25V
C247	1-164-222-11	CERAMIC CHIP	0.22uF 25V
C248	1-135-187-21	TANTAL. CHIP	2.2uF 20% 4V
C249	1-164-346-11	CERAMIC CHIP	1uF 16V
C251	1-162-953-11	CERAMIC CHIP	100PF 5% 50V
C301	1-164-346-11	CERAMIC CHIP	1uF 16V
C302	1-135-151-21	TANTALUM CHIP	4.7uF 20% 4V
C303	1-165-176-11	CERAMIC CHIP	0.047uF 10% 16V

MAIN

Ref. No.	Part No.	Description	Remark
C304	1-164-489-11	CERAMIC CHIP 0.22uF	10% 16V
C305	1-164-505-11	CERAMIC CHIP 2.2uF	16V
C306	1-165-176-11	CERAMIC CHIP 0.047uF	10% 16V
C307	1-135-221-11	TANTAL. CHIP 3.3uF	20% 4V
C308	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C309	1-104-847-11	TANTAL. CHIP 22uF	20% 4V
C310	1-164-222-11	CERAMIC CHIP 0.22uF	25V
C311	1-165-320-11	CERAMIC CHIP 0.47uF	10% 16V
C312	1-104-847-11	TANTAL. CHIP 22uF	20% 4V
C313	1-135-151-21	TANTALUM CHIP 4.7uF	20% 4V
C314	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C317	1-104-847-11	TANTAL. CHIP 22uF	20% 4V
C318	1-164-346-11	CERAMIC CHIP 1uF	16V
C319	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C321	1-125-639-11	CAPACITOR 56000uF	3.5V
C325	1-104-847-11	TANTAL. CHIP 22uF	20% 4V
C326	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C331	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
C332	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C333	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
C334	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C341	1-135-201-11	TANTALUM CHIP 10uF	20% 4V
C342	1-104-847-11	TANTAL. CHIP 22uF	20% 4V
C343	1-104-908-11	TANTAL. CHIP 47uF	20% 4V
C344	1-104-847-11	TANTAL. CHIP 22uF	20% 4V
C345	1-104-908-11	TANTAL. CHIP 47uF	20% 4V
C346	1-164-362-11	CERAMIC CHIP 470PF	5% 50V
C347	1-164-362-11	CERAMIC CHIP 470PF	5% 50V
C348	1-162-953-11	CERAMIC CHIP 100PF	5% 50V
C349	1-162-953-11	CERAMIC CHIP 100PF	5% 50V
C351	1-104-847-11	TANTAL. CHIP 22uF	20% 4V
C352	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V
C353	1-162-964-11	CERAMIC CHIP 0.001uF	10% 50V
C354	1-163-145-00	CERAMIC CHIP 0.0015uF	5% 50V
C355	1-162-957-11	CERAMIC CHIP 220PF	5% 50V
C356	1-164-145-11	CERAMIC CHIP 390PF	5% 50V
C357	1-104-908-11	TANTAL. CHIP 47uF	20% 4V
C358	1-162-953-11	CERAMIC CHIP 100PF	5% 50V
C359	1-162-953-11	CERAMIC CHIP 100PF	5% 50V
C601	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C602	1-164-489-11	CERAMIC CHIP 0.22uF	10% 16V
C603	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C604	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C605	1-107-823-11	CERAMIC CHIP 0.47uF	10% 16V
C608	1-124-434-00	ELECT 220uF	20% 4V
< FILTER >			
CF1	1-579-823-21	FILTER, CERAMIC (450kHz)	
CF2	1-567-097-61	FILTER, CERAMIC (10.7MHz)	
< CONNECTOR >			
CN1	1-766-584-11	CONNECTOR, FPC (ZIF) 16P	
CN301	1-776-121-21	CONNECTOR, FPC (ZIF) 8P	

Ref. No.	Part No.	Description	Remark
< COMPOSITION CIRCUIT BLOCK >			
CP1	1-236-711-21	FILTER, BAND PASS	
< TRIMMER >			
CT1	1-141-463-11	CAP, ADJ (10PF)	
CT2	1-141-463-11	CAP, ADJ (10PF)	
< DIODE >			
D1	8-719-981-25	DIODE KV1450	
D2	8-719-981-25	DIODE KV1450	
D3	8-719-951-05	DIODE KV1560	
D4	8-719-941-86	DIODE DAN202U	
D51	8-719-404-49	DIODE MA111	
D301	8-719-975-40	DIODE RB411D	
D331	8-719-991-75	DIODE RB425D	
D601	8-719-422-46	DIODE MA8056	
< IC >			
IC1	8-752-072-12	IC CXA1538N	
IC301	8-759-332-69	IC LA4585M-TLM	
IC331	8-759-275-48	IC NJM2185V-TE2	
IC341	8-759-062-63	IC TA8155FN	
IC601	8-759-362-33	IC LB1879M-TE-L	
< JACK >			
J301	1-565-287-11	JACK (○)	
J302	1-750-061-11	JACK,DC(POLARITY UNIFIED TYPE)(DC IN 3V)	
J303	1-565-287-91	JACK (MIC (PLUG IN POWER))	
< JUMPER RESISTOR >			
JC140	1-216-864-11	METAL CHIP 0	5% 1/16W
JC240	1-216-864-11	METAL CHIP 0	5% 1/16W
JC301	1-216-864-11	METAL CHIP 0	5% 1/16W
JC302	1-216-864-11	METAL CHIP 0	5% 1/16W
JC303	1-216-864-11	METAL CHIP 0	5% 1/16W
JC304	1-216-296-91	CONDUCTOR, CHIP(3216)	
JC305	1-216-296-91	CONDUCTOR, CHIP (3216)	
< COIL >			
L1	1-501-809-11	ANTENNA, FERRITE-BAR	
L2	1-411-574-11	COIL (WITH CORE)	
L3	1-411-573-11	COIL (WITH CORE)	
L4	1-411-205-11	COIL (WITH CORE) (AM-OSC)	
L51	1-412-006-31	INDUCTOR CHIP 10uH	
L101	1-412-002-31	INDUCTOR CHIP 4.7uH	
L201	1-412-002-31	INDUCTOR CHIP 4.7uH	
L301	1-412-002-31	INDUCTOR CHIP 4.7uH	
< TRANSISTOR >			
Q1	8-729-207-65	TRANSISTOR RN1410	
Q3	8-729-117-83	TRANSISTOR 2SK160A-K25	

Ref. No.	Part No.	Description	Remark				Ref. No.	Part No.	Description	Remark			
L3	1-411-573-11	COIL (WITH CORE)					R10	1-216-845-11	METAL CHIP	100K	5%	1/16W	
L4	1-411-205-11	COIL (WITH CORE) (AM-OSC)											
L51	1-412-006-31	INDUCTOR CHIP 10uH					R11	1-216-845-11	METAL CHIP	100K	5%	1/16W	
							R12	1-216-073-00	METAL CHIP	10K	5%	1/10W	
L101	1-412-002-31	INDUCTOR CHIP 4.7uH					R13	1-216-815-11	METAL CHIP	330	5%	1/16W	
L201	1-412-002-31	INDUCTOR CHIP 4.7uH					R14	1-216-841-11	METAL CHIP	47K	5%	1/16W	
L301	1-412-002-31	INDUCTOR CHIP 4.7uH					R15	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
< TRANSISTOR >													
Q1	8-729-207-65	TRANSISTOR RN1410					R16	1-216-809-11	METAL CHIP	100	5%	1/16W	
Q3	8-729-117-83	TRANSISTOR 2SK160A-K25					R17	1-216-810-11	METAL CHIP	120	5%	1/16W	
Q4	8-729-117-73	TRANSISTOR 2SC4178-F14					R18	1-216-849-11	METAL CHIP	220K	5%	1/16W	
Q6	8-729-207-65	TRANSISTOR RN1410					R19	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
Q8	8-729-216-22	TRANSISTOR 2SA1162-G					R20	1-216-833-11	METAL CHIP	10K	5%	1/16W	
Q9	8-729-402-13	TRANSISTOR XN1501					R21	1-216-837-11	METAL CHIP	22K	5%	1/16W	
Q51	8-729-602-21	TRANSISTOR 2SC4154-F					R22	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
Q101	8-729-207-65	TRANSISTOR RN1410					R23	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
Q201	8-729-207-65	TRANSISTOR RN1410					R24	1-216-818-11	METAL CHIP	560	5%	1/16W	
Q301	8-729-402-13	TRANSISTOR XN1501					R28	1-216-839-11	METAL CHIP	33K	5%	1/16W	
Q302	8-729-807-86	TRANSISTOR 2SB1295-UL5					R31	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
Q303	8-729-207-65	TRANSISTOR RN1410					R32	1-216-809-11	METAL CHIP	100	5%	1/16W	
Q304	8-729-207-66	TRANSISTOR RN1411					R33	1-216-837-11	METAL CHIP	22K	5%	1/16W	
Q305	8-729-207-73	TRANSISTOR RN2407					R34	1-216-821-11	METAL CHIP	1K	5%	1/16W	
Q306	8-729-207-73	TRANSISTOR RN2407					R35	1-216-837-11	METAL CHIP	22K	5%	1/16W	
Q307	8-729-207-65	TRANSISTOR RN1410					R36	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
Q308	8-729-207-66	TRANSISTOR RN1411					R37	1-216-833-11	METAL CHIP	10K	5%	1/16W	
Q309	8-729-207-66	TRANSISTOR RN1411					R51	1-216-845-11	METAL CHIP	100K	5%	1/16W	
Q310	8-729-207-66	TRANSISTOR RN1411					R52	1-216-813-11	METAL CHIP	220	5%	1/16W	
Q331	8-729-207-65	TRANSISTOR RN1410					R53	1-216-821-11	METAL CHIP	1K	5%	1/16W	
Q332	8-729-216-22	TRANSISTOR 2SA1162-G					R54	1-216-845-11	METAL CHIP	100K	5%	1/16W	
Q341	8-729-216-22	TRANSISTOR 2SA1162-G					R55	1-216-847-11	METAL CHIP	150K	5%	1/16W	
Q342	8-729-207-65	TRANSISTOR RN1410					R101	1-216-855-11	METAL CHIP	680K	5%	1/16W	
Q343	8-729-230-49	TRANSISTOR 2SC2712-YG					R102	1-216-819-11	METAL CHIP	680	5%	1/16W	
Q344	8-729-207-65	TRANSISTOR RN1410					R103	1-216-835-11	METAL CHIP	15K	5%	1/16W	
Q351	8-729-141-75	TRANSISTOR 2SD596DV345					R104	1-216-835-11	METAL CHIP	15K	5%	1/16W	
Q352	8-729-402-13	TRANSISTOR XN1501					R105	1-216-841-11	METAL CHIP	47K	5%	1/16W	
Q353	8-729-216-22	TRANSISTOR 2SA1162-G					R106	1-216-795-11	METAL GLAZE	6.8	5%	1/16W	
Q354	8-729-230-49	TRANSISTOR 2SC2712-YG					R107	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
Q607	8-729-216-22	TRANSISTOR 2SA1162-G					R111	1-216-841-11	METAL CHIP	47K	5%	1/16W	
Q608	8-729-230-49	TRANSISTOR 2SC2712-YG					R139	1-216-833-11	METAL CHIP	10K	5%	1/16W	
Q609	8-729-207-73	TRANSISTOR RN2407					R141	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
Q610	8-729-207-65	TRANSISTOR RN1410					R142	1-216-833-11	METAL CHIP	10K	5%	1/16W	
< RESISTOR >													
							R143	1-216-851-11	METAL CHIP	330K	5%	1/16W	
R1	1-216-809-11	METAL CHIP	100	5%	1/16W		R144	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R2	1-216-821-11	METAL CHIP	1K	5%	1/16W		R149	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R3	1-216-809-11	METAL CHIP	100	5%	1/16W		R150	1-216-828-11	METAL CHIP	3.9K	5%	1/16W	
R4	1-216-797-11	METAL CHIP	10	5%	1/16W		R151	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R5	1-216-837-11	METAL CHIP	22K	5%	1/16W		R201	1-216-855-11	METAL CHIP	680K	5%	1/16W	
R6	1-216-845-11	METAL CHIP	100K	5%	1/16W		R202	1-216-819-11	METAL CHIP	680	5%	1/16W	
R7	1-216-845-11	METAL CHIP	100K	5%	1/16W		R203	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R8	1-216-845-11	METAL CHIP	100K	5%	1/16W		R204	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R9	1-216-845-11	METAL CHIP	100K	5%	1/16W		R205	1-216-841-11	METAL CHIP	47K	5%	1/16W	
							R206	1-216-795-11	METAL GLAZE	6.8	5%	1/16W	

MAIN

Ref. No.	Part No.	Description	Remark
R251	1-216-839-11	METAL CHIP 33K	5% 1/16W
R301	1-216-833-11	METAL CHIP 10K	5% 1/16W
R302	1-216-841-11	METAL CHIP 47K	5% 1/16W
R303	1-216-841-11	METAL CHIP 47K	5% 1/16W
R304	1-216-827-11	METAL CHIP 3.3K	5% 1/16W
R305	1-216-851-11	METAL CHIP 330K	5% 1/16W
R306	1-216-819-11	METAL CHIP 680	5% 1/16W
R308	1-216-829-11	METAL CHIP 4.7K	5% 1/16W
R310	1-216-829-11	METAL CHIP 4.7K	5% 1/16W
R311	1-216-789-11	METAL CHIP 2.2	5% 1/16W
R312	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R313	1-216-833-11	METAL CHIP 10K	5% 1/16W
R314	1-216-845-11	METAL CHIP 100K	5% 1/16W
R316	1-216-821-11	METAL CHIP 1K	5% 1/16W
R331	1-218-729-11	METAL CHIP 36K	0.50% 1/16W
R332	1-216-797-11	METAL CHIP 10	5% 1/16W
R333	1-216-222-00	METAL GLAZE 10K	5% 1/8W
R334	1-216-835-11	METAL CHIP 15K	5% 1/16W
R335	1-216-837-11	METAL CHIP 22K	5% 1/16W
R341	1-216-833-11	METAL CHIP 10K	5% 1/16W
R342	1-216-841-11	METAL CHIP 47K	5% 1/16W
R343	1-216-841-11	METAL CHIP 47K	5% 1/16W
R344	1-216-857-11	METAL CHIP 1M	5% 1/16W
R345	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R346	1-216-821-11	METAL CHIP 1K	5% 1/16W
R347	1-216-833-11	METAL CHIP 10K	5% 1/16W
R351	1-216-837-11	METAL CHIP 22K	5% 1/16W
R352	1-216-841-11	METAL CHIP 47K	5% 1/16W
R353	1-216-801-11	METAL CHIP 22	5% 1/16W
R354	1-216-797-11	METAL CHIP 10	5% 1/16W
R355	1-216-829-11	METAL CHIP 4.7K	5% 1/16W
R356	1-216-829-11	METAL CHIP 4.7K	5% 1/16W
R357	1-216-809-11	METAL CHIP 100	5% 1/16W
R358	1-216-841-11	METAL CHIP 47K	5% 1/16W
R601	1-216-825-11	METAL CHIP 2.2K	5% 1/16W
R602	1-216-845-11	METAL CHIP 100K	5% 1/16W
R603	1-216-809-11	METAL CHIP 100	5% 1/16W
R604	1-216-829-11	METAL CHIP 4.7K	5% 1/16W
R605	1-216-830-11	METAL CHIP 5.6K	5% 1/16W
R606	1-216-833-11	METAL CHIP 10K	5% 1/16W
R607	1-216-833-11	METAL CHIP 10K	5% 1/16W
R608	1-216-833-11	METAL CHIP 10K	5% 1/16W
R609	1-216-821-11	METAL CHIP 1K	5% 1/16W
< VARIABLE RESISTOR >			
RV1	1-223-276-11	RES, ADJ, CERMET 22K	
RV301	1-223-860-11	RES, VAR, CARBON 10K/10K (VOL ▲)	
RV601	1-223-258-21	RES, ADJ, CERMET 4.7K	
< SWITCH >			
S301	1-762-302-11	SWITCH, PUSH (1 KEY)(TAPE POWER)	
S302	1-572-288-11	SWITCH, PUSH (FWD-REV)	

Ref. No.	Part No.	Description	Remark
S303	1-762-541-11	SWITCH, SLIDE (PB-REC)	
S304	1-692-901-11	SWITCH, SLIDE (PB EQ)	
S305	1-692-430-11	SWITCH, SLIDE (AVLS)	
S306	1-692-898-11	SWITCH, SLIDE (MEGA BASS)	
S307	1-692-605-11	SWITCH, SLIDE (ISS)	
S308	1-692-430-11	SWITCH, SLIDE (FM MODE, DOLBY NR)	
< TRANSFORMER >			
T1	1-411-206-11	COIL (WITH CORE) (AM-IFT)	
T51	1-449-021-21	TRANSFORMER, DC/DC CONVERTER	
T351	1-427-653-21	TRANSFORMER, BIAS OSCILLATION	
< THERMISTOR >			
TH601	1-810-794-11	THERMISTOR, POSITIVE	
< VIBRATOR >			
X1	1-567-163-11	FILTER, CERAMIC (10.7MHz)	

MISCELLANEOUS			

8	1-537-863-11	CONDUCTIVE BOARD, CONNECTION	
9	1-655-731-11	TUNER FLEXIBLE BOARD	
HE901	1-500-291-11	HEAD, MAGNETIC (ERASE)	
HRP901	1-500-292-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	
M901	1-698-457-11	MOTOR (REEL/CAPSTAN)	
ND701	1-801-075-11	DISPLAY PANEL, LIQUID CRYSTAL	

ACCESSORIES & PACKING MATERIALS			

*	1-542-116-11	MICROPHONE	
	2-389-320-01	CUSHION, LOCK PLATE	
	3-385-513-01	CUSHION	
	3-800-936-13	MANUAL, INSTRUCTION (ENGLISH,FRENCH)	
	3-800-936-22	MANUAL, INSTRUCTION (SPANISH,CHINESE)	(E:TYPE 1,EA)
*	3-800-936-32	MANUAL, INSTRUCTION (ENGLISH,FRENCH)	(E:TYPE 2)
	3-800-936-42	MANUAL, INSTRUCTION (SPANISH,CHINESE)	(E:TYPE 2)
	3-800-936-61	MANUAL, INSTRUCTION	(GERMAN,SPANISH)(AEP)
	3-800-936-71	MANUAL, INSTRUCTION (DUTCH,SWEDISH)(AEP)	
	3-800-936-81	MANUAL, INSTRUCTION (ITALIAN,PORTUGUESE)	(AEP)
*	3-921-966-01	CLIP, BELT	
	3-929-312-01	INDIVIDUAL CARTON (CND,E:TYPE 1,EA)	
	3-931-474-01	INDIVIDUAL CARTON (AEP,E:TYPE 2)	
	8-953-130-90	HEADPHONE MDR-E801//K SET	
	X-3336-715-1	STAND ASSY, MICROPHONE	

9-960-466-12

Including 9-960-466-81
 9-960-466-82
 9-960-466-91

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 Consumer A&V Products Company
 Personal A&V Products Div.

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WM-GX414

SONY.

SERVICE MANUAL

*Canadian Model
AEP Model
E Model
Chinese Model*

SUPPLEMENT - 3

File this Supplement with the Service Manual.

Subject :

- **FRENCH AND CHINESE MODELS HAS BEEN ADDED**
- **CHANGE OF PARTS LIST**

(ECN-WM600525, 601319, 800151, 800518)

The French and Chinese model is approximately the same as the AEP model and Saudi Arabia model.
(Chinese model corresponds to Saudi Arabia model and French model corresponds to AEP model.)
Only difference between (AEP, Saudi Arabia model) and (French, Chinese model) are listed.
For other informations, please refer to the previously issued service manual (9-960-466-12).

• DIFFERENCE PARTS LIST

- Items marked “*” are not stocked since they are seldom required for routine service.
Some delay should be anticipated when ordering these items.
- Abbreviation
CND : Canadian EA : Saudi Arabia
- How to identify E : TYPE 1 and E : TYPE 2, refer to
“How to identify TYPE 1 and TYPE 2 for E model”

EXPLODED VIEWS

MAIN SECTION (Service Manual see page 24)

Ref.No.	AEP, Saudi Arabia Model		French, Chinese Model	
	Part No.	Description	Part No.	Description
60	A-3016-749-A	MAIN BOARD, COMPLETE	A-3016-749-A	MAIN BOARD, COMPLETE (EXCEPT French)
			A-3021-009-A	MAIN BOARD, COMPLETE (French)

ELECTRICAL PARTS LIST

MAIN

(Service Manual see page 27, 29)

Ref.No.	AEP, Saudi Arabia Model						French, Chinese Model					
	Part No.	Description					Part No.	Description				
	A-3016-749-A	MAIN BOARD, COMPLETE					A-3016-749-A	MAIN BOARD, COMPLETE (EXCEPT French)				
		*****					A-3021-009-A	MAIN BOARD, COMPLETE (French)				

R106	1-216-795-11	METAL GLAZE	6.8	5%	1/16W		1-216-795-11	METAL GLAZE	6.8	5%	1/16W	(EXCEPT French)
							1-216-803-11	METAL GLAZE	33	5%	1/16W	(French)
R206	1-216-795-11	METAL GLAZE	6.8	5%	1/16W		1-216-795-11	METAL GLAZE	6.8	5%	1/16W	(EXCEPT French)
							1-216-803-11	METAL GLAZE	33	5%	1/16W	(French)

ACCESSORIES & PACKING MATERIALS (Service Manual see page 30)

AEP, Saudi Arabia Model		French, Chinese Model	
Part No.	Description	Part No.	Description
3-800-936-13	MANUAL, INSTRUCTION (ENGLISH, FRENCH)	3-800-936-14	MANUAL, INSTRUCTION (ENGLISH, FRENCH) (EXCEPT Chinese)
3-800-936-22	MANUAL, INSTRUCTION (SPANISH, CHINESE) (E : TYPE 1, EA)	3-800-936-91	MANUAL, INSTRUCTION (CHINESE, ENGLISH) (Chinese)
3-800-936-61	MANUAL, INSTRUCTION (GERMAN, SPANISH) (AEP)	* 3-929-312-01	INDIVIDUAL CARTON (CND, E : TYPE 1, EA, Chinese)
3-800-936-71	MANUAL, INSTRUCTION (DUTCH, SWEDISH) (AEP)	* 3-931-474-01	INDIVIDUAL CARTON (AEP, E : TYPE 2, French)
3-800-936-81	MANUAL, INSTRUCTION (ITALIAN, PORTUGUESE) (AEP)		
* 3-929-312-01	INDIVIDUAL CARTON (CND, E : TYPE 1, EA)		
* 3-931-474-01	INDIVIDUAL CARTON (AEP, E : TYPE 2)		

● CHANGE OF PARTS LIST

EXPLODED VIEWS

MECHANISM SECTION (Service Manual see page 25)

Ref. No.	Before Change		After Change		Remark
	Part No.	Description	Part No.	Description	
710	3-354-868-11	BELT	3-938-657-11	BELT	Changed
711	3-920-992-01	SPRING (STOP)	3-015-436-01	SPRING (STOP)	Changed
715	X-3369-752-1	CLUTCH ASSY	X-3375-837-1	CLUTCH ASSY	Changed

ELECTRICAL PARTS LIST

MAIN (Service Manual see page 29, 30)

Ref. No.	Before Change				After Change				Remark
	Part No.	Description			Part No.	Description			
R37	1-216-833-11	METAL CHIP	10K	5% 1/16W	1-216-826-11	METAL CHIP	2.7K	5% 1/16W	Changed
RV1	1-223-276-11	RES, ADJ, CERMET	22K		1-223-258-21	RES, ADJ, CERMET	4.7K		Changed

● CORRECTION (Service Manual see page 23)

●  : indicates corrected portion

